DOMESTIC ENGINEERING

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PRACTICAL CO-OPERATION.

THE American of today is known as a reader of newspapers and magazines. If he does not read the morning paper at breakfast, he does so in the car on his way to business. His evening paper is just as essential to his welfare. His magazines are on the reading table at his home.

Many master plumbers and fitters have realized the tendency of the times and have been consistent advertisers in their local newspapers.

One objection made by some of the trade to using newspaper advertising is that they have not the time to prepare the necessary copy, nor the skill with which to make it effective.

"Domestic Engineering" has from time to time reprinted excellent examples of effective newspaper advertising, and back numbers will prove valuable in getting together suggestions.

One source of assistance in the preparation of newspaper advertising has been overlooked by many of the master plumbers and fitters. That is, the efficient advertising service supplied by a number of the better known manufacturers of sanitary enameled ware, boilers and radiation, water supply systems, etc.

These manufacturers have gone to much trouble and expense to prepare drawings, cuts and copy that will materially assist the users in securing business.

These advertisements can be obtained without expense, all ready for the insertion of the plumber's name and address at the bottom. Or the illustrations can be had, ready for the use of such copy as the plumber prefers.

For those who prefer the use of slides for moving picture theatres, several of the manufacturers have arranged to furnish these, with the dealer's name and address at the bottom prominently displayed.

Many master plumbers and fitters are making good use of the high-grade booklets and circulars intended for distribution among prospective buyers and are right now mailing and handing out this literature, all of which has been furnished them with their imprint.

Money-making possibilities are wrapped up in these methods. The dealers who are using them are enthusiastic, almost to a man. The cost is so small that it is surprising what opportunities are being lost by those who have their noses too close to the grindstone to see bids to better business at their hands.

It may not be a bad idea to look into this matter *now*.

IN RENEWING YOUR SUBSCRIPTION.

The traveling representatives of "Domestic Engineering" who are authorized to receive payment for new or renewal subscriptions or books are all provided with proper credentials, signed by "F. P. Keeney, Manager." These credentials will be presented upon demand. Money should not be paid to individuals representing themselves as subscription solicitors for "Domestic Engineering" if they cannot produce such credentials when asked to do so. If in doubt, make check payable to "Domestic Engineering," Chicago.

We would appreciate information as to the address of one George Scott, last reported in Iowa, who has collected for subscriptions and not reported.

Commercial Benefits of Sanitary Plumbing

The Health and Spirit of the Working Force a Great Factor in Promoting Economy and Efficiency in the Modern Factory

By WALDON FAWCETT

IN myriad ways does the new order of things contrast with the old in American factories, but in none more strikingly than in the hygienic and sanitary arrangements of the modern industrial plant. It has been no small task to place our shops on a par in this respect, with our most up-to-date stores and offices, and yet this is being rapidly accomplished.

We have heard much of what factory managers are doing to safeguard life and limb by providing screens

In some plants it has been found advantageous to pump ice water to the various departments.

for machines and by introducing individual motor drive in replacement of a maze of belting. The advance in the provision of rest rooms and amusement facilities at our industrial plants has also been exploited. Likewise, the benefits of fire drills and fire fighting adjuncts. Pension systems, insurance systems and profit-sharing plans have not received more praise than the drilling of employes in "first aid" work and the supplying of Red Cross kits or the institution of first-aid rooms or emergency hospitals at the plants. But, through it all, there has been surprisingly little mention of what is in reality the backbone of the whole new policy—namely, the promotion of health and efficiency by the introduction in the factory world of modern sanitation in the broadest sense of the word.

That the subject is, however, of no mean importance to the business man and especially to the manufacturer may be surmised from the fact that leading American corporations are today making expenditures ranging as high as $100,000 in a single instance for sanitary plumbing fixtures. Even this does not tell the whole story because there are some phases of sanitation which require equipment beyond the pale of the plumbing category, but sanitary plumbing is, of course, the first requisite of a healthful workshop. Additional evidence of the trend of the times is seen in the circumstance that many sanitary engineers are now specializing upon factory installations.

No one interest or influence deserves all the credit for the era of sanitation in the factory which has lately dawned. A prime factor, undoubtedly, was a gradual realization on the part of our shrewd, far-sighted American business men that the average employe will do better for his employer as well as for himself if he labors under clean, healthful conditions in an environment that is conducive to mental vigor and physical fitness, and if his self-respect is nurtured by facilities that tend to raise the standard of personal cleanliness and neatness. This view of the matter is, if you will, a selfish one for the manufacturer, and yet it is doubtful if a single man of affairs has been actuated solely by considerations of self-interest in providing baths and toilet rooms and a dozen other twentieth century utilities for his wage-earners.

Side by side with the recognition of sanitation as a factor for economy and efficiency in manufacturing have come changing conditions, affecting the life of the working classes, which have brought pressure to the same end. In the old days, a larger proportion of our workingmen walked to and from work. Like as not they "cut across lots" going and coming, and when the day's work was done the average employe could scarcely be induced to devote much time to "washing up" unless his occupation rendered him positively grimy. Otherwise he preferred to go home to clean up and was prone to resent as a loss of time an interval spent on his toilet at the factory.

Latterly, however, a much larger proportion of our industrial workers round out the day with a more or less lengthy journey by trolley car, boat or train. For such transit the men usually feel it incumbent upon them to make themselves more or less presentable. Another tendency of the times figures in. In years gone by, the machinist, the pattern maker, or other artisan who was engaged in a fairly cleanly occupation, was wont to content himself with one suit of clothes over which overalls were worn during his hours at the factory. Now, we have the inclination of the average workingman to have two complete suits, one for street wear and the other for use at the factory. This involves a complete change twice a day and necessitates the provision of "change rooms," etc.

*Reprinted by courtesy of the Business Magazine, Detroit, Michigan.

Finally, the eight-hour working day has seemingly entered in to some extent in the readjustment of conditions. With more leisure at his disposal, many a toiler does not so begrudge the time given up to personal attentions.

It amounts then to this, that the present situation may be said to represent both cause and effect. The manufacturer who seeks the highest class of workingmen and desires to have them contented is virtually compelled to provide sanitary arrangements to meet the new standards of the wage earners. But the new standards of the factory workers have been established in great measure because the progressive factory administrators have provided toilet and kindred facilities that are in themselves an insistent invitation to a daily routine of cleanliness that is the best passport to health.

To the uninitiated a survey of what American manufacturers are doing in this field cannot prove other than a revelation. A contrast of the most pronounced "before and after" type is afforded by the equipment of present day toilets and wash rooms as compared with the unclean and inadequate ones of a few years since. On top of this are adjuncts which were undreamed of a few decades ago—shower baths, needle baths, airy lockers, plunge baths, steam racks for drying clothes and a dozen other conveniences, to say nothing of the rest and recreation rooms and the lunch rooms which are intimately allied with the above if for no other reason than that they have been made possible in their present form by the sanitary plumbing which has been the mainspring of this whole new era of factory hygiene. And not the least of the benefits which manufacturers are conferring upon their wage-earners—and indirectly upon themselves—is found in the present-day facilities for furnishing pure drinking water.

According to present day ideas two of the chief menaces of the old-time factory were found in the common drinking cup and the much-used and much-abused roller towel. The latter has given way to sanitary substitutes, especially to the economical and satisfactory paper towels, whereas the common drinking cup has been supplanted either by individual cups (preferably those of paper), or better yet by the bubbling drinking fountain which requires the use of no cup whatever. Manufacturers have their choice of a number of different models of these sanitary drinking fountains, and some of the newer styles are fitted with a guard or cage so that the lips cannot possibly touch the nozzle of the fountain.

In some plants it has been found advantageous to pump ice water to the various departments throughout the factory and to place at frequent intervals spigots whither the employes may carry their cups to be filled if the bubbling fountain is not used. And, by the way, this matter of the distribution of drinking fountains, toilet and other facilities that go to make up the sanitary equipment of the modern industrial institution is a most important one from an economic standpoint. It has been found that where the workers have to spend too much time going back and forth to minister to their bodily needs there is a serious loss to the employer. It is a case where a shortage of facilities is as poor economy for the manufacturer as is a shortage of telephones for the merchant who seeks to have his customers shop by phone.

Whereas the great majority of industrial workers in American plants where modern sanitation has been introduced have entered into the spirit of the thing, and have shown an appreciation for the manufacturer's progressive policy that would be folly to pretend that these new-fangled ideas are an unmixed blessing unless the employer is wide awake and installs his new plumbing and other improvements with due regard for all contingencies. For instance, it has been found that toilet rooms, if not located so as to be under some supervision by foremen, etc., may become loafing places for the more indolent members of the force. Then, again, there is evidence that seems to indicate that in every large body of men there are a few who not only have no appreciation for superior arrangements for their comfort, but through some intangible resentment or spirit of mischief, will seek to mar the beauty or interfere with the operation of equipment installed for the benefit of the entire shop force.

It is this condition, in part, which dictates qualities of simplicity, durability and efficiency in the highest degree for sanitary plumbing for the modern industrial plant. Nor is it solely to thwart the occasional wanton abuser of property that plumbing, etc., must be made fool-proof. A much more general condition, but one scarcely less serious, is that produced by the workers who are careless or ignorant or thoughtless or in too much of a hurry. Care in the selection of fixtures and constant supervision of the factory toilet rooms will save much inconvenience and the expense of plumbers' bills resultant from clogged water closets, etc.

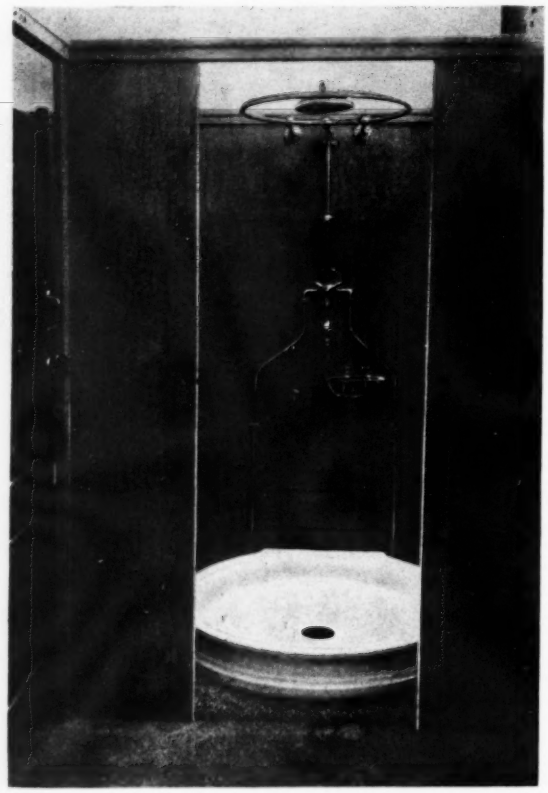
Fortunately, the manufacturers of plumbing supplies have been able to forestall many of these troubles. For example, the modern closets are not only highly efficient but they are sanitary in the highest degree. Self-ventilating closets are the rule and in many of the approved modern models every inch of the surface is automatically cleaned and the odors removed. This has in great measure done away with the use of deodorizers and disinfectants which were always of doubtful value as protective agents.

It is usually economical in the end to install worth while equipment.

Experts in factory sanitation are not given to making hard and fast rules or sweeping recommendations as to the form of plumbing installations best adapted to this field. It is admitted that each individual manufacturing plant is, to a great extent, a law unto itself. In selecting plumbing fixtures, the manufacturer must be guided largely not only by the numerical strength of his working force but also by the character of the work, the sex of the workers and their average intelligence and even (if it can be ascertained) the personal preferences of the wage-earners. There have been instances where workingmen have all but refused to make use of closets which they claimed were so arranged that the occupants were ever under the watchful eyes of the foreman. Or, again, some factory forces have welcomed the installation of shower baths and

plunges; whereas, others have resented such innovations on the theory that the employer was too patronizing.

Where the character of the working force seems to warrant it the preference is naturally for individual shower or other baths and individual closets, or at least for what are known as range closets with dividing partitions and doors. However, there are circumstances which seem to dictate the multiple or continuous trough system rather than individual closets. The important point is, however, that whatever the system, it is possible to obtain fixtures that are durable without being expensive. Nevertheless, cleanliness is so important a requisite in bath and toilet rooms, lavatories, etc., used, more or less hurriedly, by large numbers of employes, that it is usually economical in the end to install worth-while equipment. Thus we



The preference is naturally for the individual shower bath.

have wall hanging closets and fixtures popular with many manufacturers because they facilitate the work of keeping the floors clean and sanitary. Similarly we see the liberal use of marble and glass and of cement or glass slabs for flooring because of the advantages of maintenance.

The business man who is ambitious for the sanitary factory that will promote the health and spirit of his working force finds it necessary to not only forestall the thoughtlessness of careless employes but also to circumvent the occasional dishonest one. However, this is readily accomplished. Conspicuously marked towels seldom go astray and paper ones are slight loss. Liquid soap has proven a boon in that its form is not conducive to either theft or waste.

One characteristic of twentieth century sanitary policy for the factory is the provision of plenty of urinals widely distributed. These are invariably of the automatic flushing type. If desired the flushing water may be charged with disinfectant. In not a few modern industrial plants capacious swimming pools have been provided and in some instances out-door swimming or bathing pools have been made available for use during the spring, summer and autumn. One factory superintendent found that the installation of such a pool was followed by a marked falling off in drinking on the part of the men. Indeed sanitation in general has been reflected not only by the vim and vigor displayed by employes but also by the higher average of sobriety and a great reduction in the absences from work due to illness. Finally, it may be noted with satisfaction that the tendency in factory sanitation as in other fields is to standardization.

The Spectator

Among Friends and Customers.

Ever have anyone make your shop his headquarters and still be glad to see him?

You know how some fellows will drop in, no matter how busy you are, and have a funny story to tell, or a smutty joke to spring. You wish they were in purgatory, especially when some lady customer just comes in, and they have been treating the floor around the cuspidor with undue freedom and a surplus of the juice.

I remember, though, that years ago an old gentleman used to come into the place to see me. He owned a fairly good home up the street, was comfortably fixed and gave me a little work occasionally. Seldom a morning passed that he did not drop in to pass the time of day and linger for an hour or more.

Perhaps it was that he reminded me very much of my father, whom I had lost but a year before. Or possibly it was that human sympathy that you feel for some men, while for others there is only a casual glance and a nod as you pass them by.

The boys in the shop got to know "Daddy," as they called him—and to rather expect him every day. I first tolerated his visits—then began to take them as a matter of course.

Three years had gone by—"Daddy" had not been in for a week. I sent the office boy up to see what was the matter. Just feeling bad, was the report.

Last week a little procession passed down the street. I closed the shop—the boys wanted to go down to the house. We paid our last respects to one who had grown into our affections in spite of our heretofore rigid rule, "No loafing allowed."

HAVE SUCCEEDED IN "MAKING THE BUSINESS PAY."

Buffalo, N. Y., Oct. 16, 1913.

Editor, "Domestic Engineering": Enclosed please find $2.00 in currency to pay subscription to "Domestic Engineering," for current year.

Yours truly,

Dixon & Ballou.

P. S. We do not want the book, "Making the Business Pay." We have been trying to do that for the last forty years, and know something about it.

Ventilation of the Princess Theatre, St. Paul

The Subject of Theatre Ventilation is One That is Now Being Given Much Consideration—An Example of a Recent Installation

By JOSEPH GRAHAM

THE accompanying plans will give the reader a good idea of the manner of ventilating the Princess Theatre at St. Paul, Minn. This theatre has a seating capacity of 1,400 people.

The system of ventilation consists of a Hackney No. 90 double centrifugal disc blower connected with the necessary ducts.

The blowers are driven by a 7½ horse power, 110 volt, direct current motor, with a rheostat giving 50 per cent reduction in speed. These blowers are arranged to deliver 663,960 cubic feet of air per hour, removing the same amount of foul air in the same time, at a speed of 259 revolutions per minute.

The blowers and motor are installed in the basement under the stage, as shown in Fig. 1. The fresh air is taken in through a 39-inch round duct, connecting to an 18-inch by 73-inch riser, which passes up through the back of the stage 20 feet above the floor. An 18-inch by 73-inch duct is connected with the fresh air blower, from which two branch ducts, each 18 inches by 36 inches, are taken and connected with two 18-inch by 36-inch risers.

These risers pass up, one at each side of the stage, and are extended over the auditorium between the ceiling and the roof.

The two ducts before referred to are reduced in size as shown on plan, Fig. 2.

At the opposite end the ducts lead into an 18-inch by 18-inch riser, which passes down behind and under the balcony and is connected with two 13-inch by 13-inch ducts, leading to each side of the parquet.

The foul air is discharged into an 18-inch by 73-inch riser, which is extended up through the rear of the stage 20 feet above the floor, thence passing out of doors.

Connecting to the foul air blower there is a 39-inch round duct, branching into two 18-inch by 36-inch ducts, which lead out under the floor of the auditorium, with two ducts 26 inches by 26 inches.

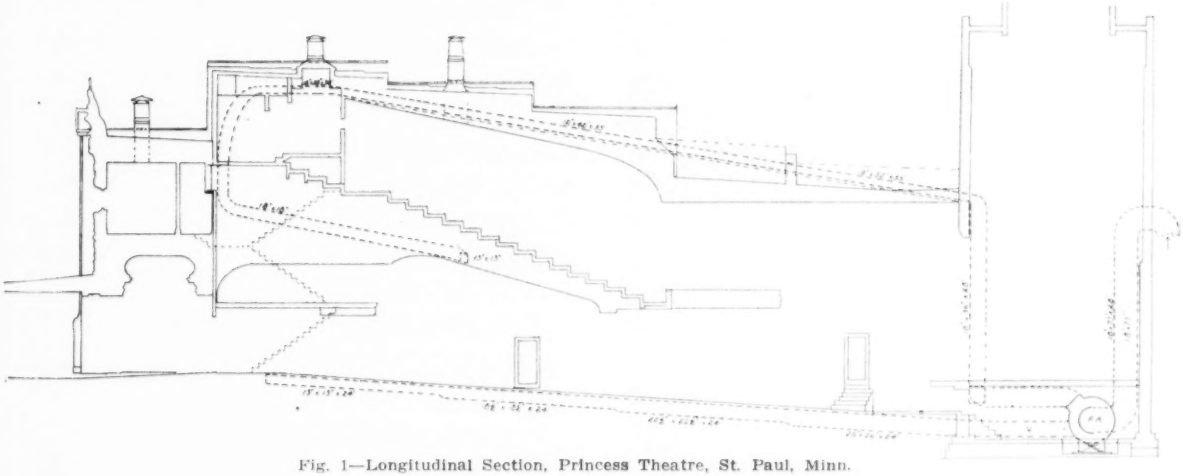


Fig. 1—Longitudinal Section, Princess Theatre, St. Paul, Minn.

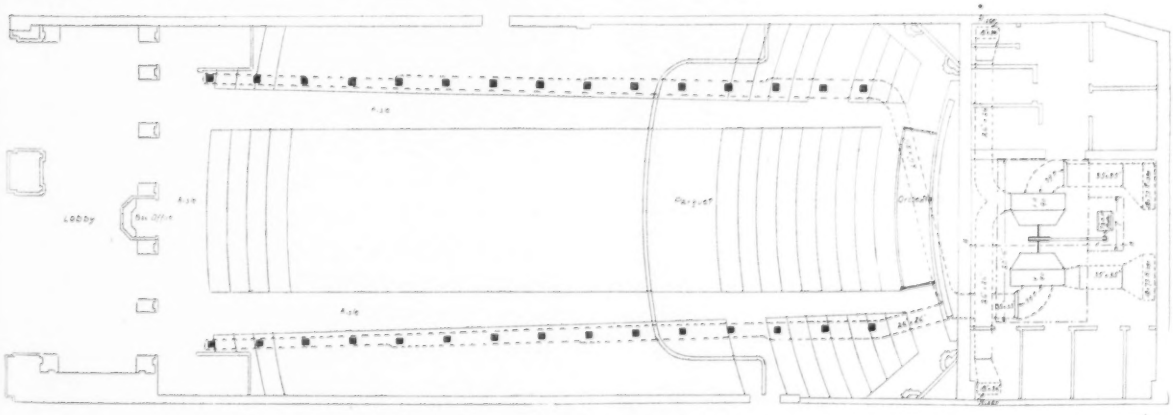


Fig. 2—Parquet Floor, Princess Theatre, St. Paul, Minn.

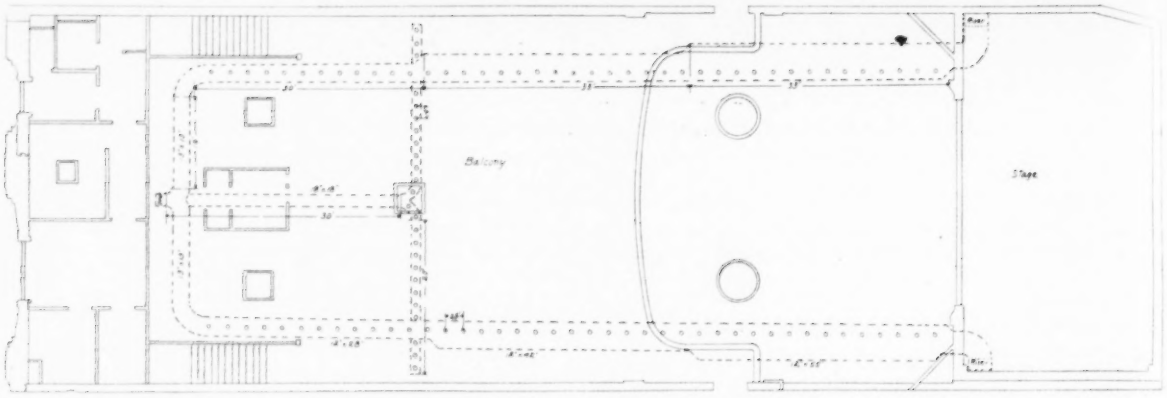


Fig. 3—Balcony Plan, Princess Theater, St. Paul, Minn.

These ducts are reduced to the sizes shown on plan, Fig. 3.

Eighty-two fresh air deflectors are provided on the fresh air line above the auditorium; and twenty-eight deflectors on the fresh air line under the balcony. These deflectors are 4 inches round.

On each of the two foul air lines there is also provided fifteen foul air registers, 9x9 ins., placed in the floor, as shown on the plan.

The only visible pipe in the entire installation is the 18x18 in. riser passing down behind the balcony and the riser located on the stage.

ENTITLED TO RECOVER FOR PLUMBING AND INSTALLATION OF HEATING PLANT.

A firm, as subcontractors, agreed to install the plumbing in a building in accordance with the plans and specifications prepared by the architects under whose superintendence the building was erected, which plans and specifications called for the installation of toilets of a certain type. The firm also contracted to install the heating plant. The firm afterwards brought two actions to foreclose liens upon the real estate for balances claimed to be due them upon the plumbing and heating contracts, which actions were consolidated and tried together. Counter claims for damages were pleaded by the defendants in each action. They contended that the toilets were improperly installed; that they could not be used; and that it was necessary to replace them with toilets of a different type. They also contended that the heating plant was defective; that the adopted system, which was suggested and guaranteed by the plaintiffs, was improper and insufficient; and that extensive changes had to be made before it would do satisfactory work. The trial court made findings upon which a final judgment of foreclosure was entered in the plaintiffs' favor for $326.08, with interest and attorney's fees upon the plumbing contract, and for $1,391.02, with interest and attorney's fees, upon the heating contract, including some extras.

In affirming that judgment, the Supreme Court of Washington says, in Ward vs. Pantages, 131 Pacific Reporter, 642, that, after a careful examination of the pleadings and evidence, it concluded that issues of fact only were involved. The subtance of the defendants' contention was that the plaintiffs did not perform the work of plumbing in a workmanlike and skillful manner, and that as to the heating plant the system suggested and warranted by them was defective and insufficient. The plaintiffs contended as to the plumbing that the architects specified the toilets to be installed; that those specified were not practical for dwelling houses; that the plaintiffs installed them as specified; that the defendants and their architects insisted upon the particular type adopted; that the plaintiffs followed their instructions; that the toilets afterwards proved to be fundamentally wrong; and that the defendants did not attempt to repair them, but removed them and substituted others. As to the heating plant, the plaintiffs contended that they notified the defendants and their architects that the plans adopted were not practicable; that certain air chambers, constructed under the architects' direction, were of insufficient size; that the plaintiffs in all respects followed the architects' directions; and that the fault, if any, was not the plaintiffs', but that of the contractors. The trial court, in substance, found that the plaintiffs, as subcontractors, entered into a verbal agreement for the installation of the plumbing; that in pursuance thereof they performed the work, furnished material, and installed the system; that the work was completed in accordance with the specifications prepared by the defendants' architects, who were in charge of the work, and that, if the plumbing system failed, the fault was not the plaintiffs', but was either due to defective plans and specifications, or to improper and erroneous instructions given to the plaintiffs by the architects. The court further found that the plaintiffs entered into a contract with the defendants and their architects for the installation of the heating plant in accordance with the plans and specifications, which had at all times been, and were, in the defendants' possession; that the plaintiffs followed all instructions of the architects who were in charge of the work; that the plaintiffs advanced their time and money in good faith; that the work which they did, was done in a workmanlike manner; and that if, as it was originally installed, the heating plant failed to perform its functions, such failure was solely the fault of the architects, who were the defendants' agents.

The defendants earnestly contended that the systems adopted, especially for the heating plant, were suggested and warranted by the plaintiffs. This the plaintiffs denied. The evidence upon the issue thus raised was resolved by the trial court in the plaintiffs' favor. If, as the plaintiffs contended, and the trial court properly found, the plans were adopted by the defendants' architects, all that the plaintiffs could be held to have warranted was that they would install the systems in a workmanlike manner, in strict compliance with the adopted plans, and there was sufficient evidence to sustain the finding that this was done.

Business Methods for the Master Plumber

II.—Getting Into Business for Himself is a Laudable Ambition for the Journeyman, But Requires Business Training of a Practical Sort

By WESLEY A. FINK

IT IS seldom that the mechanic who engages in the plumbing business has had the advantages of a business training, and often has but little education. He may understand the mechanical principles involved, be proficient in the line of work he undertakes, and successfully pass the examination of the board of health of the town in which he intends to locate; but he knows nothing of the science of accounts, or of the methods necessary to be used in order to conduct a successful business.

Note the difference and the contrast between the boy who becomes a good mechanical plumber and then strives to become a good master plumber, and the boy who starts in at the bottom in a grocery, boot and shoe store, dry goods store or what not. See what a miserable handicap the plumber boy suffers from the beginning. The boy who begins by building the fires and sweeping out a store of any character commences almost on the first day to learn merchandizing—learning the prices, learning what an article costs, acquiring some knowledge of the relation between cost and selling price, some idea of how to make sales and handle customers.

It is safe to say that almost any bright boy in a grocery, within six months of the time he sets foot in the store, will know both the cost price and the selling price of every article in the store. After he has worked in a store for four or five years he is well grounded in the rudiments of his business. He knows costs. They are made perfectly plain to him. So, if this sort of boy becomes ambitious and starts in business for himself, he knows costs the first minute he opens his own store.

But the boy in his own new plumbing shop perhaps never spent an hour in the business end of another plumbing shop. He knows nothing of costs; he knows nothing of the selling end; consequently he wouldn't recognize a profit if he were to meet one in the middle of the street in broad daylight. He has had no chance or opportunity to learn.

Plumbing consists of two operations—manufacturing and merchandizing; producing or constructing the plumbing work and then selling it. Most plumbers forget or never know of the latter operation. All they have ever learned or thought was necessary to learn was the manufacturing process—constructing or doing the plumbing work. Usually what little training the plumber has had has been in the mechanical end of the business. When he worked on a job or contract, and happened to know what the boss got for the job, he figured up the time spent to complete the work, guessed at the cost of material used, and then subtracted that from the selling price of the job, and thinks the difference is all profit. He sees big money in a business of his own. This has worked upon his mind until he makes the venture.

What has been the greatest factor in keeping down the prices of plumbing in the past—the factor that has evolved wonderful ideas as how to do plumbing work cheaper than anyone else?

The answer is easy. It has been the ambitious workman who has raked and scraped for years to save a few dollars and started in business for himself. He had some vague idea as to the prices his employer charged, and conceived the idea that he could make more than wages by going into business for himself, than by working with the tools for someone else. Or sometimes he had a tiff with his employer, and thought he was the one entitled to all the credit for work or profits of the shop, and borrowed some money or "stood in" with the supply house and opened a shop of his own. Starting for himself, he imagined all the customers would flock to him; and perhaps some one customer, a contractor or a real estate agent who thought he was paying too high a price for his work, went to this man, and with the usual "fairy tale" of giving him all his work, still further fired his enthusiasm. And he guesses how low he can do a plumbing job, always striving for the low price—in order to beat the other fellow out of the job—in order to donate that many more dollars to the wily customer. He teaches his customers to expect low prices, for he always cuts under his competitor's price. His first, second, third and last thought is always, "How low can I make the price on this job?" Never how high.

Then when bills begin to pour in and no funds are on hand to meet them, and he has to figure how he can get the pay-roll together for his employees, to say nothing of getting money for the other costs of doing business, he wonders why it is, with so much work, he hasn't a big bank account.

This is practically how many of the plumbing shops of to-day were begun. Some succeeded through extra hard work; others won success through having accidentally charged fair prices for their work. Others sooner or later, if they do not properly study cost and selling price, suffer all the pangs and humiliation of going "broke." Often to save their "bacon" a few years longer in any old way, they get some "angel" to invest more capital in their losing business. But under poor business management, where no business science was or is known, any added expense in wages or otherwise, or a reduction of working hours, simply helps force the shop to the wall a little sooner.

One of the handicaps of the plumbing business is the number of persons without capital and managerial experience being supplied with necessary credit to start them in the plumbing business, to cut prices, injure established concerns, and finally go out to let another come in. Supply men have furnished their capital and material to this class of men, knowing that they would be direct competitors of the plumbers already established. And they further knew the workman had no business knowledge, having always been a mechanic and never having had an opportunity to learn the business side of plumbing. This setting up in business of incompetents with their ignorant competition has continually kept the plumbing business just outside the graveyard.

There is a change, however, taking place among present day workmen, and the most of those who will today start in business for themselves—which is a laudable thing—will get business on a different basis from that

of a few years back. This great change is going to be made through the general introduction of cost systems. The workman is being impressed with the use of the cost system, and while he knows how it is abused in the workshop to a certain extent, yet he can readily see its need, and after one or two years' experience he thinks of a cost system the same as any other part of the work, and knows that it is absolutely necessary. He may have a very hazy idea as to how "costs" are figured out, but he knows about the time sheets and job tickets and their value, and is quite sure that the rest of the system can be as easily handled. An ambitious workman in a cost-system shop is not going to take a chance of going into business without one; he knows of the great benefit it has been to the shop where he is employed, and is quite sure he will need it, too.

To the manufacturers and supply men much credit must be due for the uplift movement now sweeping the country with irrestible force. The increasing knowledge of costs and its more universal profit making, has been brought about largely through the efforts of the supply man. Upon him has fallen the burden of the primarily practical effort, that of supplying the altogether necessary cash. Anything that has stood for the advancement and progress and profit for the plumber he has been willing to boost along. He has helped to furnish the literature, the energy and activity necessary to make the national and local meetings a success; and they have not failed, neglected or refused to "come across" at each and every opportunity that has been offered to them.

BREAKING INTO THE PLUMBING BUSINESS IN BRITISH COLUMBIA.

Editor "Domestic Engineering":—What show has a plumber, when he starts in business with a debt of $200 and nothing but a suit of clothes and a journeyman's kit of tools in a strange city with a population of 5,000 and with four established plumbing concerns doing all the business at prices lower than in San Francisco, and this where the materials cost more?

This is exactly what I went up against here in British Columbia. Of course, I could go to work as a journeyman, but when I asked $6 a day, there was absolutely nothing doing.

Luckily for me a prolonged spell of cold weather came at this stage of my affairs, and this gave me a chance to make about two hundred dollars, after which I waited patiently till I went broke. I then secured a mucking job for 21 days, 10 hours a day, at 30 cents an hour, on the railroad rather than cut the price on plumbing work. Following this I joined the Longshoremen's Union and worked at the wharf for 50 cents an hour. Having time to spare on this job I opened a shop and took all kinds of jobs that came along. I piled lumber, posted bill signs and acted as messenger for a messenger bureau. After a while one job followed another, until I now have 50 customers on my books and $200 to collect, with bills payable $150, material on hand, $150; bank account, $32; tools bought and on hand, $150; and a well-equipped bachelor apartment. Plumbing, bookkeeping, collecting, doing favors and advertising keep me so busy that I sometimes forget to eat; and now I have a drawer full of letters and bills to go over. Your letter was the third one. The two bones enclosed will answer it. The books you sent me so promptly and your paper are a great help to me. I consider "Domestic Engineering" the best and most interesting of all magazines.

While business is not brisk at present, I am busy all the time. My spare time I spend in cutting nipples and in experimenting with water coil propositions. I have ordered a thawing machine for thawing frozen pipes, to be delivered December 1st. It surprised me to see no such apparatus advertised in your journal. All the advertisements you carry are of great interest to me, and I expect to be able to order several things that I need but cannot afford to buy at present.

In the last few weeks I have installed fifteen coils in range stoves. By my way of installing them I have been able to heat 40 gallons of water in twenty minutes and draw a bath every fifteen minutes, and in one of my installations with a 100-gal. boiler 100 gallons of water are heated in 50 minutes. Five minutes after lighting the fire in my own little stove I draw water so hot that you cannot put your fingers in it without scalding them. I am creating quite a demand for jobs of this kind, and I get $15 for making the coil and connecting it up.

The other day I did another unusual job. I cut the bottom out of a stove, connected an eight-inch galvanized pipe to it, fixed it up with two dampers, and this is now doing the ash-chute stunt to perfection, saving my customer a lot of traveling up and down stairs. This job cost him $12, and he is a satisfied customer. I will no doubt get several similar jobs from his neighbors. Another job, which I think will be a little out of the beaten track, is on my book. This is a little heating system, where I am to connect a radiator to a range boiler, and I am going to do it in my own way.

Well, here is the professor from our business college, and it is after 10 o'clock. He joins me in a little collation. Then we have a game of checkers, and I am the champion so far. And now, Good Night!

British Columbia. Harry Hanson.

Norman W. Haas.

Norman W. Haas, a well known master plumber, of Denver, Colo., died recently at his home in that city. He was formerly president of the Colorado Master Plumbers' Association and had many friends in the plumbing trade in the middle western states.

John Kelly.

John Kelly, one of the founders of the Weldon & Kelly Co., in Pittsburgh, Pa., died at his home in that city on September 14th, after a short illness. Mr. Kelly was born in Pittsburgh in 1834, and had been connected with the plumbing trade for more than half a century. With James E. Weldon he formed a partnership in the plumbing business as early as 1864. When Mr. Weldon died in 1895, Joseph A. Weldon, his son, became Mr. Kelly's partner. In 1900 the firm's business was incorporated under the name of the Weldon & Kelly Company. Mr. Kelly is survived by his two sons and one daughter.

Franklin Duckrow.

Franklin Duckrow, of the plumbing firm of Duckrow & Duckrow, 222 West Onondaga Street, Syracuse, N. Y., died at his home in that city on Thursday evening, October 9th, after a long illness. He had been in the plumbing business with his brother, Randolph O. Duckrow, for several years. He leaves three brothers and one sister.

Water—Its Properties and Practical Uses

XVI.—Kitchen, Pantry, Slop and Stable Sinks; Their Peculiarities, Methods of Installation and Care; Suggestions for Their Selection

By F. W. TOWER

Sinks.

SINKS are usually classed as kitchen, pantry, slop and stable types, and made of various materials, sizes and shapes.

The various materials of which sinks are made are:

Iron, plain, painted, galvanized, and enameled.

Steel, painted, galvanized, and enameled.

Porcelain, or enameled cast iron.

Vitrified ware, brown or white.

Slate, and soapstone.

Copper, and german silver.

Many kitchen sinks are make of slate or soapstone with high backs as an integral part of the fixture.

All sinks with joints are liable to collect grease, dirt, and vermin.

All sinks should be installed in an open manner to avoid the collection of filth or vermin, as well as for ventilation.

The walls against which sinks are set should be of a non-porous material.

Many marked improvements in kitchen sinks have been made because of the increasing recognition for the latest sanitary appliances.

One of the most noticeable and hygienic, is the combined, or integral back to the sink.

The material being porcelain, the surfaces are easily cleaned.

The sink in one piece, or any other fixture, is the ideal one to install, because of the cleanliness so easily maintained.

The modern pattern sink has a back or end with a drainer board combined, making a complete fixture, both hygienic and attractive.

Rubber drainer mats are often used in porcelain or iron sinks to reduce the liability of breaking the dishes.

Kitchen sinks should be set 30 in. to 32 in. from the floor to the top of the rim.

The water supply to a kitchen sink should be taken directly from the street service, for cold water, when possible, and the diameter determined by the pressure, the lower pressure requiring the larger diameter for a suitable supply to avoid waiting.

The hot supply is usually taken directly from the heater by the shortest route, and a circulation return is not as essential as to a distant fixture.

The waste pipe from the sink should be furnished with a strainer to prevent the entrance of any matter not suitable for a waste pipe or drain.

The trap under a kitchen sink is often a grease interceptor, and serves also as the regular trap for the fixture, in preventing the entrance of sewer air.

The grease trap is needed only when so much hot fat passes through the waste as to close the trap by its sudden cooling and closing the bore of the pipe.

If the hot water is allowed to run freely for some time, whenever greasy waste is poured into the sink, there is little danger of stopping from this cause, and a frequent and long flushing with hot water is very desirable for both the sink and drain.

The location of the sink is of considerable importance, as this very essential fixture is in such constant use.

It should be near a window for light, near the pantry to save travel, and close to the range, yet far enough away to be unaffected by heat radiated from the range, or from the boiler.

Pantry Sinks.

Pantry sinks are made of copper, german silver, enameled iron, and earthenware.

These sinks are provided with a stopper and overflow.

This overflow may enter the waste pipe before entering the trap, but preferably a separate connection to the trap should be made, for, if the waste between the trap and sink should become choked, the overflow would act and thus prevent damage.

For hotels or restaurants, a grease trap is very desirable, as a large amount of greasy matter is unavoidably discharged into this fixture, and often chokes the waste

These sinks should be set at such a height that the rim will not be more than 30 ins. from the floor.

A drainer should always be provided for either a pantry or dish washing sink.

The faucets for a butler's pantry sink should be of the high arm type to more readily allow all articles to be rinsed, or to place a pitcher under the outlet of the tube.

The pantry sink should be located conveniently near the dining room, preferably between it and the kitchen.

The slop sink is preferably made of vitrified stoneware, provided with a flushing rim, and supplied from an elevated tank to cleanse the interior walls effectively.

These sinks are usually mounted on a trap as a standard, serving the double purpose of a trap and support, thus being open and fully exposed.

This sink should be provided with a firmly fastened strainer, but with slightly larger openings than usualiy made for kitchen sinks, as larger waste matter must be provided for.

Although the one piece vitrified ware is the ideal type of material, many enameled iron sinks of this type are on the market and giving satisfaction.

Slop sinks should not be set higher than 24 in. from the floor to top of rim.

The waste pipe diameter should be no less than 2 in., and 3 in. or 4 in. is the usual size..

The hot and cold supplies for drawing water for chamber use, etc., are usually through a combination faucet arranged with a spout to hang a pail while filling.

Non-absorbent material for the walls about a sink of this type should be provided, and the location should be in a well lighted and ventilated room.

Stable Sinks.

Stable sinks are usually used in combination with the watering trough, supplied with a standing overflow, or with a protected ball cock, to automatically refill the trough as fast as used.

The usual depth of this class of sink is 12 in. and the material may be either cast iron, steel or enameled iron.

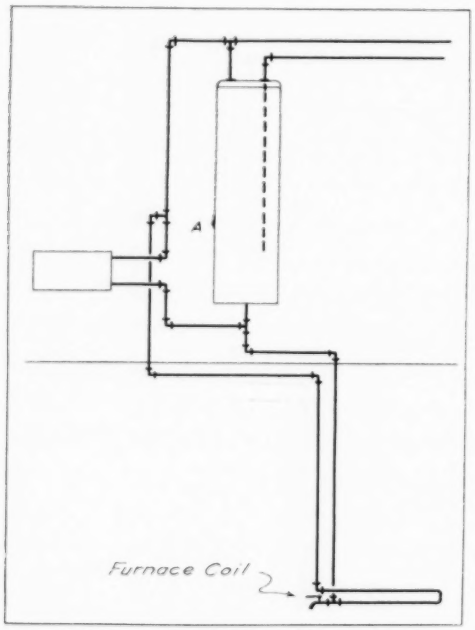
The waste is the usual diameter for such fixtures, 1½ in. and the trapping should be as well and efficiently installed as in a dwelling.

The usual height for a stable sink is 24 in. from the floor.

Questions and Answers

A SUGGESTION FOR RANGE BOILER WORK.

Editor "Domestic Engineering":—Noting your correction of range boiler connections from two stoves in a recent issue of your valuable journal, I would suggest a better way of making the connections as shown in the accompanying sketch. When connected in this way the stove on the first floor can be used without circulating the water through the furnace coil, which would tend to cool the water nearly eight months of the year; and if the furnace only was in use the water would not have to pass through the water back in the stove before reaching the range boiler, as is the case with the connections you have shown.



A Suggestion for Range Boiler Work.

Portage, Wis. Herman F. Schulze.

In accompanying illustration we show correspondent's connections, and thank him for submitting his suggestion. The only point that we have to raise against his method is that experience shows that very often when two flow pipes are connected together, as in this case, the flow from one source of heat will be strong enough to partially block the flow from the other. This may not always happen, of course, but there is a strong possibility that it will. If the flow pipe from furnace coil should be connected at A, into the side of the boiler, leaving the range flow pipe as correspondent shows it, the objection that we have raised would be overcome.

Correspondent states what, in his opinion, is an objection to the connections which we showed in our issue of Oct. 4, but in answer we would say that we do not think the points raised by him cause difficulty, as the connections in question are in use in innumerable instances, and apparently are very satisfactory in their results. There is an objection to them, however, from the fact that when anything arises that calls for repairs on either water front or furnace coil, the entire hot water supply system is at a standstill.

RETURNING CONDENSATION FROM RADIATORS BELOW WATER LINE.

Editor "Domestic Engineering": We notice in your issue of August 9th a query from A. B. O., Horton, Kansas, on how to return condensation from radiators or coils located below the water line of the boiler.

We do not agree with the last paragraph in your answer to this query. Would say in regard to the use of new water to take the place of condensation in the boiler that there are many objections to be raised. In the first place the cost of feed water would be a small item. In most localities water carries in solution a considerable amount of incrusting solid, and if this water were washed and fresh water supplied the boiler surface would soon coat over with incrustation and render it non-effective.

Another objection is that this party very likely is using the boiler for heating purposes only, and in that case would have no feed water heater. The injection of water at a probable temperature of 55 degrees continually into this boiler would be an item of great expense during the heating season.

There would be no possible advantage that we can see in wasting the condensation which is the best of distilled water at a comparatively high temperature, and replacing it with new cold water carrying incrusting solids. To arrive at the comparative cost of using cold water and return hot water: One B. t. u. will raise one pound of water through one degree Fahr. at a water temperature of about 39 degrees.

Assuming a feed water entering temperature of 55 degrees and a water boiling temperature of 212 degrees we would have a difference of 157 degrees; in other words, the temperature of the water would have to be raised 157 degrees in case of using fresh water. Assuming that one B. t. u. will raise one pound of water one degree Fahr., to raise this water to 157 degrees would require 157 B. t. u's.

Now if there were 100 pounds of water to raise per hour we would have 100 times 157 or 15,700 B. t. u.'s to be expended in raising this water to the boiling temperature, and assuming an average of 20 hours run per day we would expend 20 times 15,700 or 314,000 B. t. u's. per day.

Assuming an efficiency of 14,000 B. t. u's per pound of coal it would cost to waste this water through trap to sewer, 314,000 divided by 14,000 or 22.4 plus pounds of coal per day. Assuming a boiler efficiency of 60 per cent, we would have to add to this amount about 15 pounds of waste, making in round numbers 37.4 pounds of coal per day.

Now if the water was returned hot to the boiler at 190 degrees, which would be a fair average of feed water tmperature from a pistonless pump, we would have a temperature rise between that and the boiling point of only 22 degrees, and on the same theory we would expend only 22 B. t. u.'s per hour. 2 times 100, the amount of condensation, would be 2,200 B. t. u.'s per hour, and in the same length of time, 20 hours per day, we would

have 20 times 2,200 or 44,000 B. t. u's of loss per day. 44,000 divided by 14,000 equals 3.1 plus pounds of coal per day, and with a boiler efficiency of 60 per cent, 2 pounds plus. Thus making a total expenditure of coal to raise the return condensation to the boiling point of 5.1 pounds of coal per 20 hour run.

Now we have an expenditure of coal per day's run of fresh water of 37.4 pounds, and with a return condensation of 5.1 pounds. 37.4 minus 5.1 pounds, leaves a balance in favor of the return condensation of 32.4 pounds of coal per day.

Assuming an average of 180 days in the heating season, we would have an extra expenditure of 5,832 pounds or almost 3 tons of coal. 3 tons of coal at an average of six dollars and fifty cents ($6.50) per ton, makes an extra expenditure over and above what would be necessary of nineteen dollars and fifty cents ($19.50) per year.

Canton, O. D. W. Chapman, M. E.

A MARBLE CEMENT.

Editor "Domestic Engineering:" We have installed a marble shower stall recently, setting it in plaster of Paris, and having found out that this does not hold water we have come to the conclusion that plaster of Paris is not the right thing to use. We would like to know what we ought to use in this case. The stall is of Italian marble, and the material we are to use must be white or the color of the marble.

Canal Dover, O. R. H. P.

We believe that correspondent will find that plaster of Paris can be used for this work, if the following method is used.

Soak the plaster of Paris in a saturated solution of alum, and then bake it in an oven, after which it should be ground into a powder. It is then ready to be used, mixing it with water in the usual way. This cement will set very hard, and is capable of taking a good polish. To give the cement the color of the marble, any coloring material may be used.

DOUBLE BOILER WORK DONE BY SINGLE BOILERS.

Editor "Domestic Engineering": I have heard that it is practicable to use two common range boilers and connect them up in such a manner that they will do the work of a double boiler.

Will you kindly let me know how such a system could be arranged?

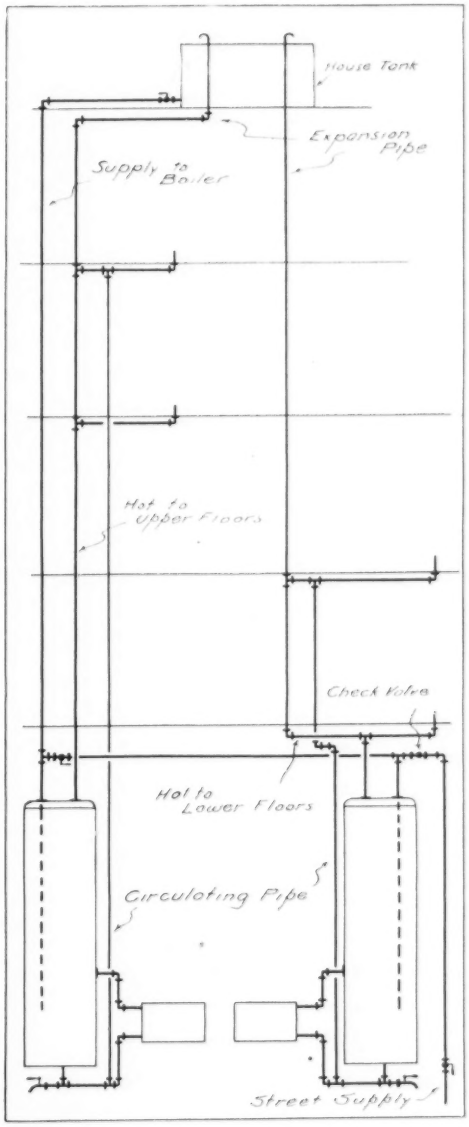
New York City. A. B. C.

It is true that two common range boilers can be connected up to do the work of a double boiler. Such connections we show in accompanying illustration.

The boiler supplying the upper floors, which the street supply cannot properly handle, is fed from a supply tank, while the other boiler, which supplies the lower floors, is under street pressure.

Naturally each boiler must be heated from a source independent of the other. Our illustration shows two ranges heating the two boilers. Under some circumstances a double water front might be made available for such a system as this, or a tank heater having two separate heating sections. Each of these boilers should have an expansion pipe, running from the high point on the flow pipe, up to and over the tank. It is necessary that the boiler under street pressure have such a pipe, for the reason that the time may come when tank pressure is turned into this boiler also.

As in regular double boiler connections, there should be a cross-connection between the tank and pressure



Double Boiler Work Done by Single Boilers.

supplies, so that in the event of failure of either supply the other supply may be used on both boilers.

A check valve is required on the pressure supply, so that if the house tank were supplying both boilers when there was a break on the pressure supply, the contents of the tank would not drain out. The use of this check valve would make it necessary to use an expansion on the direct pressure boiler, even if there were no other reason, as the closing of the only path of expansion with a check valve, would produce a dangerous condition.

In other principal features the connections of this job would not be different from double boiler work, ex-

cepting in the drainage connections. The latter are somewhat complicated on a double boiler, but may be the common connection in the case of this present job.

HOT WATER SUPPLY FOR FOUR- OR FIVE-STORY OFFICE BUILDING.

Editor "Domestic Engineering": Can you give me the general idea of the hot water supply system for a four- or five-story building devoted mostly to office purposes?

Dubuque, Iowa. R. L.

In the first place we would advise a circulating job by all means for a building of this nature. Unless such a system were provided with circulation the waste of water in drawing off branches to get hot water would be very great.

The selection of a proper plan of piping would necessarily depend largely on the construction of the building, and the location of fixtures.

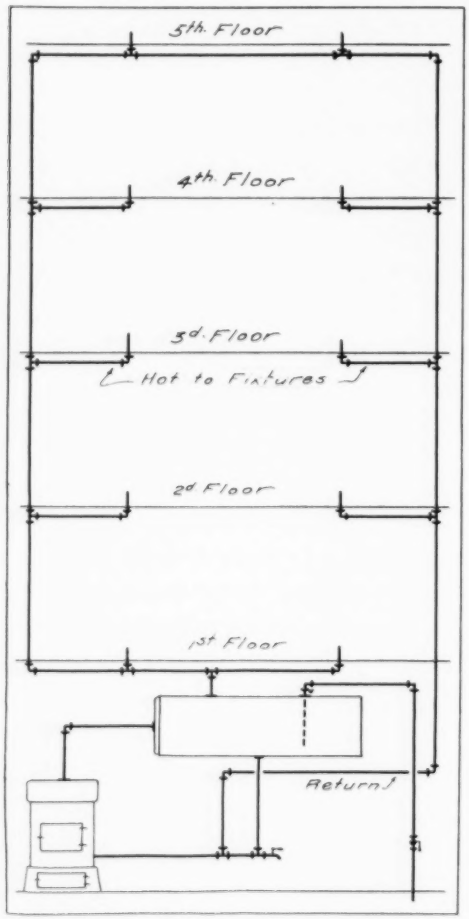


Fig. 1.

In such a building the offices and their toilet rooms are often the same on the several floors, thus allowing vertical lines of supply to be run, with short branches to fixtures.

In Fig. 1 we show one plan of piping, in which the fixtures on one side of the building are supplied from what is really the return or circulating pipe. As in such a building the hot water will be used chiefly for tollet purposes, the water would not need to be so hot as when required also for laundry and kitchen use, and therefore this plan might be acceptable, while in some other building it might not produce water that is hot enough.

Another plan is shown in Fig. 2. Here the main supply

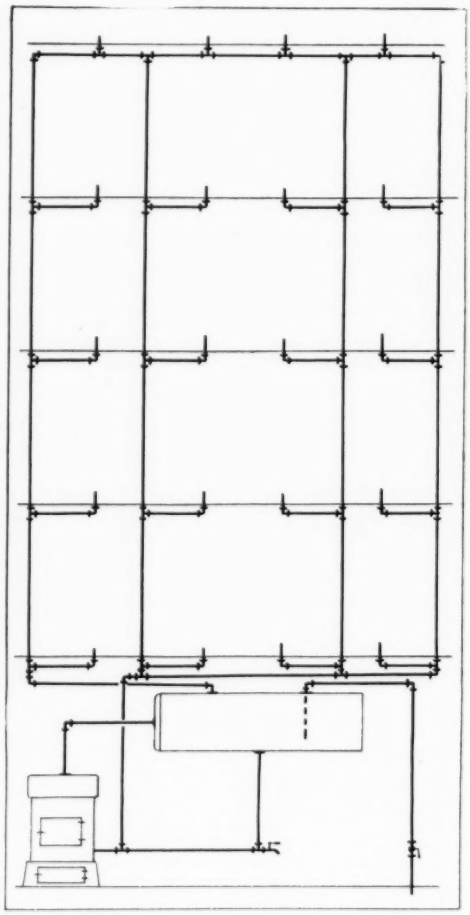


Fig. 2.

pipe is run directly to the top floor and continued horizontally, with drop risers taken out, to supply the several vertical lines of fixtures. These drop risers connect into a main return pipe in the basement, which is carried back to the heater. Top floor branches will prevent air-lock on each of these systems.

We believe this will give "R. L." the general information he needs.

Buel A. Fuller, a master plumber of Fullerton, Cal., has moved into a new building.

Fred J. Meinheit is opening an electrical department in the plumbing shop of Keeney & Rother, at Antioch, Cal.

The Escondido Plumbing Co., of Escondido, Cal., conducted by John D. Speer, has just moved into new quarters in the Roberts building.

Edwin Kogler, who has for a number of years been associated with W. H. Richardson, a master plumber of Orange, Cal., has gone into business on his own account, opening an establishment in the Kogler hardware store at Orange.

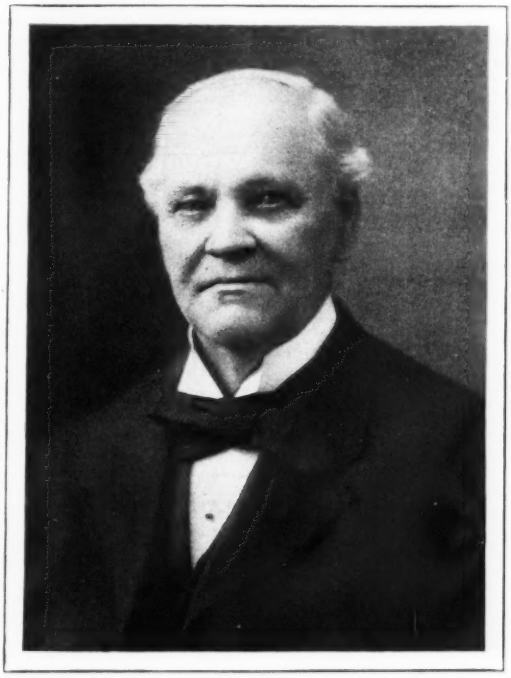
Little Sidelights on Men in the Trade

He's Been a Soldier Brave and True

FIFTY-FOUR years ago, these United States of America were hurled into the vortex of a sanguinary and spectacular internal conflict. In many instances father fought against son, and brother against brother.

It was a prolonged and bitter struggle, between two great sections of the nation, a struggle which was destined to take its place in the pages of the world's history as one of the famous military campaigns that have figured in the rise and fall of nations.

Amidst the terrible carnage and turmoil of the civil war, there were men who left home and loved ones to fight valiantly for the preservation of the union, and for the extension of mercy and justice to a submerged and enslaved race.



Daniel J. Rock.

One of the gallant and true-blue boys who responded to the call of "Old Abe" for volunteers to defend the Union and the future stability of American institutions, was Daniel J. Rock, of Chicago, first president of the Chicago Master Plumbers' Association, and one of the city's early master plumbers who served his apprenticeship at the trade under Chicago's pioneer master plumber—Alexander Raffan. That was away back in the early forties when Chicago was in a somnolent condition industrially and otherwise. Business was not plentiful—neither was the money to pay wages, to say nothing of bills. The times were in an uproar—and sanitation as we know it was in its swaddling clothes.

In 1860, just before the North and the South stepped into the military ring for a deadly four-year fight, Daniel Rock was in the plumbing business in Chicago. He was doing well. Then in '61 Fort Sumter was fired upon. A national crisis had come. The business and commercial interests of the country were at a standstill. By 1862 Mr. Rock's strong patriotic sentiments asserted themselves, and he made bold to discard his plumber's overalls for one of Uncle Sam's blue regimentals. His Scottish blood boiled within him when he contemplated the apparently hopeless and enslaved condition of the black man. The full force of his sterling Scotch character manifested itself, and Dan Rock enlisted.

When the boys of the 90th Illinois Infantry, known otherwise as the "Irish Legion," marched away, Rock was among them. On southern battlefields he found himself before long. He smelt gunpowder and plenty of it. He was in the thickest of the fighting. Under the command of Grant, Sherman and Logan he saw service. At Missionary Ridge he received severe wounds, which kept him hobbling about for months on crutches. In 1864 he was promoted to the rank of sergeant of Company E, in the 90th Illinois.

When he returned home at the close of the war, it was up to him to rebuild his business which had been sorely crippled by the broadcast havoc of war. Rock had a task before him. He went at it with vim and vigor, but it was not until 1866 that he was financially able to reopen his own plumbing shop. In the meantime he had worked for James Irons who conducted a plumbing establishment in those days in Chicago. Upon starting into business again, Mr. Rock formed a partnership with J. H. Lane, which continued about four years, after which he conducted the shop for himself at 79 N. Clark Street.

The great Chicago Fire "raised Cain" with him in '71, devouring his plumbing shop and a major part of his worldly goods. He was then located on Hinsdale Avenue, over on the West Side. He sojourned for some months on South Halsted Street, where he lived as a fire refugee. When the rebuilding of the city began, which was undertaken promptly, he purchased property in Lakeview and there he built himself a home—1141 Lill Avenue, where he has resided ever since.

G. A. R. men of Lakeview have a warm spot in their hearts for Daniel Rock, because of his earnest and unceasing activity in organizing Washington Post, No. 573 of Lakeview. In 1882 with the efficient aid of James J. Wilson and Seth Hanchett, both G. A. R. men, and esteemed Lakeview citizens, Mr. Rock was able to found the Lakeview Soldiers' club, which a few years later grew into the Washington Post No. 573. That was in 1886. Mr. Rock who named the Post and assembled its members together, was eventually elected Post Commander. Under his regime, the Post became one of the most prosperous in Chicago. At one time it boasted a membership of one hundred and six old soldiers. At the time of the anarchist reign of terror in this city, the post was commissioned by Captain Villiers of the Lakeview police force, to serve as a body of special police should riot spread to Lakeview.

Daniel J. Rock as a member of Company E, 90th Illinois Infantry, during the siege of Vicksburg, under Gen. Grant.

Mr. Rock is still "on the job" at the old stand at 501 N. Clark street, although the active part of the business has been transferred to the younger generation—his two sons. In spite of his seventy-eight years, he is today genial, hale and active, always ready to converse with his friends, crack a joke or listen to one.

When the Chicago Master Plumbers' Association was organized in 1882, Daniel Rock was unanimously elected as its first president. The early members of the local association felt that he was pre-eminently the man who should represent their interests as a class.

The present generation of Chicago master plumbers look with veneration upon this "grand old man of the trade." Within the last decade his voice has been raised in the committee meetings of the Association, and on a number of occasions he has represented the organization at the national conventions of the craft.

Business Changes

Portsmouth, O.—George West has moved his plumbing establishment to the corner of Seventh and Chillicothe Streets.

McComb City, Miss.—P. Hanahan has sold his plumbing business at 428 Maryland Avenue to the McComb Plumbing Co., of this city.

Grove City, Minn.—N. G. Hawkinson has sold his plumbing business to Settergren Bros., who will conduct it in connection with their hardware business.

New Brighton, N. Y.—Edward I. Sevine has purchased the plumbing business of I. Lederhaudler at 518 Jersey Street. He will continue the business at the old stand.

Los Angeles, Cal.—C. M. Smith has purchased the plumbing business at 424 Angelus Street, which was formerly conducted by E. C. Hayes under the name of the Smith-Hays Plumbing Co.

Rutland, Vt.—Elias Jangraw, who conducts a plumbing business on Grove Street, has sold a half interest in the business to John Abare of this city, and the firm will in the future be known as Jangraw & Abare.

Nashua, N. H.—Fred T. Buxton has retired from the plumbing business and has purchased an interest in the overall factory of the Burbank Manufacturing Co. in this city. Mr. Buxton was one of the leading master plumbers in this section of the state.

New Business Ventures

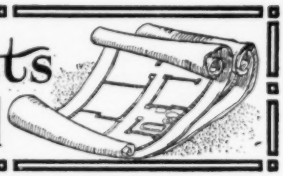
Chicago Junction, O.—W. O. Lavigne has opened a plumbing and gasfitting establishment here.

St. Joseph, Mo.—Harvey B. Grayson is planning to open a plumbing establishmnt here.

Chicago, Ill.—Joseph Klaub has opened an up-to-date plumbing establishment at 5213 South Robey Street.

Clark's Fork, Idaho.—Harold Upton, formerly of Spokane, Wash., has bought out the Krotzer hardware store in this city, and will conduct a plumbing shop in conjunction with the hardware and logging supply business.

Contracts Awarded



Casper, Wyo.—W. F. Henning has secured the contract for the plumbing and heating in the Mokler building in this city.

Boise, Idaho.—The Acme Plumbing Co. has secured the contract for the installation of an up-to-date plumbing system in the new Elks' Building.

Indianapolis, Ind.—Woolen & Callon have been awarded the contract for remodeling the heating system in the Tomlinson Hall. Consideration, $2,800.

Superior, Wis.—Stack Bros. have been awarded the contract for plumbing and heating the Douglas county workhouse. The consideration is $4,781.

New Rochelle, N. Y.—R. E. Henderson, of 34 Rose Street, has secured the contract for the installation of a heating system in the new city library.

Savanna, Ill.—The Savanna Plumbing & Heating Co. has been awarded the contract for the installation of a new heating system in the European Hotel in this city.

Alameda, Cal.—The L. T. Johnson Co., of this city, has secured the contract for the installation of oil-burners in three of the local schools. The contract amounts to $2,545.

York, Pa.—The York Engineering Co., of this city, has secured the contract for the installation of heating and ventilating systems in the new Conshohocken high school building.

Waterbury, Conn.—T. A. Walker has secured the contracts for the plumbing and heating in H. A. Pease's residence, and in A. H. Walls' two-family house on Midgeon Avenue.

Little Rock, Ark.—The M. B. Sanders Plumbing Co. has secured the contract for the installation of plumbing, heating and ventilating systems in the new Courthouse in this city. Consideration $52,000.

Cincinnati, O.—The Attlesey-Dyer Co., of 819 Vine Street, has secured the contract for the plumbing in the twelve-story Gwynne building, now being erected at the corner of Sixth and Main Streets.

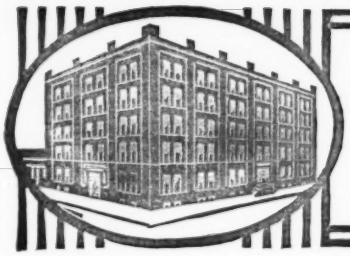
Columbus, O.—The Lamneck Co., of this city, has secured the contract for the installation of up-to-date heating and ventilating systems in the Mentor school building, which is to be erected at Cleveland, O.

Washington, D. C.—Maurice J. Colbert, 621 F. Street, N. W. has secured the contract for the plumbing in a new apartment house being erected by Joseph O'Donnell. The contract calls for nearly one hundred fixtures.

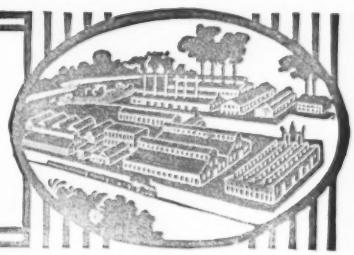
Grand Rapids, Mich.—Van Rossum Bros., 917 Ottawa Avenue, N., have secured the contract for the installation of plumbing, heating and ventilating systems in the comfort station which is to be built in Fulton Park.

Aberdeen, S. D.—The Aberdeen Plumbing & Hardware Co. has secured the contract for the installation of plumbing and heating systems in the hospital building at the Indian school in Wahpeton, N. D. The contract amounts to $5,000.

Grand Rapids, Mich.—George Thompson has secured the contract for the installation of an up-to-date plumbing system in the Herald Building on Fulton Street, and the Phoenix Sprinkler and Heating Co. secured the contract for heating this building.



Among the Wholesalers and Manufacturers



WESTERN PLUMBING SUPPLY CO. BUYS FACTORY.

The Western Plumbing Supply Co., 117-119 North Desplaines Street, Chicago, has purchased the plant of the Climax Brass Mfg. Co., at 2316 West Harrison Street, Chicago.

THE PILLSBURY & BALDWIN CO. GOES INTO BANKRUPTCY COURT.

The Pillsbury & Baldwin Co., manufacturers of plumbers' woodwork at St. Johnsbury, Vt., has filed a petition in bankruptcy. The concern's liabilities are scheduled at $37,845.52 and its assets at $34,279.41.

WILL MAKE WATER HEATERS OF ALL KINDS.

The Exhaust Water Heater Co., of Cleveland, O., has been incorporated with a capital of $10,000 to manufacture water heaters of all kinds. The incorporators are: D. S. Bray, G. B. L. Dodge, G. B. Andrews, J. E. Carroll and W. C. Morton.

GENERAL OFFICES OF CALDWELL MFG. & SUPPLY CO., IN NEW LOCATION.

The Caldwell Mfg. & Supply Co., of Pittburgh, Pa., has moved its general offices from 328 Diamond Street to 5020 Gloster Street. The company is devoting its entire time to the manufacture of wrought iron nipples for the heating and plumbing trades.

THOS. KELLY & BROS. COMPLETE LARGE ADDITION.

Thos. Kelly & Bros., of Chicago, have just completed a two story addition to their factory at 421 S. 45th Court. This new building is 150 ft. long and will give the firm space for much needed facilities in handling its constantly growing business. The firm reports having had an unusually good year.

WILL MANUFACTURE VENTILATING SYSTEMS.

The United Ventilating Co., of New York City, has been incorporated with a capital of $20,000, to manufacture ventilating systems. The incorporators are: John F. Krohn, 834 Hudson Street, Hoboken, N. J.; Wm. F. Kinney, 61 Fifth Avenue, and Richard Lambert, 152 West 49th Street, both of New York City.

SUFFERED LOSS BY FIRE IN LOS ANGELES, CAL.

Considerable loss, estimated at $10,000, was suffered by the H. R. Boynton Co., of Los Angeles, Cal., on the night of Oct. 11, as a result of a fire which broke out in the adjacent building of the California Macaroni Co. The company had a stock valued at $250,000 in the building, but the most valuable goods suffered no damage. The same fire also caused some damage to the building of the H. W. Johns-Manville Co., at 222 Los Angeles Street.

SOLAR HEATERS BECOMING POPULAR.

The Fillmore Manufacturing & Hardware Co., of Fillmore, Cal., has been specializing for several months on solar heaters, utilizing the heat of the sun to provide hot water for domestic purposes. This type of heater has shown a high degree of all-year-round efficiency in that district, and is becoming quite popular.

THE IROQUOIS ENGINEERING CO. OPEN NEW YORK OFFICE.

The Iroquois Engineering Co., of Fisher Building, Chicago, has just opened an eastern office in the Architect's Building, 101 Park Avenue, New York City. Eugene P. Bradley has been appointed manager of the office, and he will carry a complete line of the company's air-washers and humidifiers, vacuum generators and traps as well as steam specialties.

MAKES IMPORTANT ADDITIONS TO ITS LINE OF PLUMBERS' BRASS GOODS.

The Cleveland Brass Mfg. Co., of Cleveland, O., announces an addition to its line of brass goods for the plumbing trade. The addition consists of inverted curb cocks in both regular and Minneapolis pattern, also a line of high grade T handle curb cocks and a line of corporation cocks. The printers are at work on the company's new catalog which should be ready for the trade about December 1st.

THE ANNUAL MEETING OF THE MASSACHUSETTS CHAPTER OF A. S. H. & V. E.

The election of Major J. W. H. Myrick as president of the Massachusetts chapter of the American Society of Heating and Ventilating engineers at the annual meeting, held October 14th, has brought forth numerous expressions of approbation by Boston newspapers. The Boston Transcript says: "With Major Myrick in office the Massachusetts Chapter will be heard from in the coming months with an authoritative voice on the subject of definite ventilation and hygiene and at each meeting one or more experts will be invited to talk on these matters." Mr. Myrick succeeds as president of the chapter Frank Irving Cooper, who recently was appointed by Governor Foss as a delegate to the Fourth International Congress of School Hygiene at Buffalo. Other officers elected by the chapter were: Vice-president, Charles F. Eveleth;

secretary, Frank Irving Cooper; treasurer, William T. Smallman; board of governors, Albert B. Franklin, Charles Morrison and H. W. Whitten.

CENTRAL SUPPLY ASSOCIATION TAKES ACTION ON PUBLIC COMFORT STATIONS.

Annual Meeting Held at the Hotel Sherman, Chicago, Oct. 22, Has Large Attendance.

An important step forward was taken by the Central Supply Association this week at its meeting at the Hotel Sherman, Chicago, when a decision to do aggressive work for the establishment of more public comfort stations was made.

A committee with Harry Gale Nye as chairman and O. D. Hognead, W. D. Allen as members, was appointed to present the matter to the Chicago city council, with the object in mind of securing an adequate appropriation in the 1914 budget for more comfort stations in Chicago. This committee will also prepare literature and other publicity to induce other cities to extend their work along this line. The co-operation of the members in all parts of the country is expected in this work.

The members went into executive conference at 10 o'clock in the morning and again at 3:30 in the afternoon. At noon a banquet was given to the delegates at the Sherman hotel.

A feature of the convention was a masterly address by Professor J. L. Laughlin of the University of Chicago. His topic, "Industrial Democracy," was listened to by the delegates with keen interest.

Professor Laughlin in the course of his talk pointed out that the industrial and economic inequality of men was not due to our present industrial, political and social system, but rather to the lack of initiative and enterprise on the part of the individual unit of society.

"Because A. is rich and B. is poor, simply signifies that A. has within him the qualities that make for success and material progress," said Professor Laughlin. "A. is not a malefactor of wealth because he has strenuously observed the rules of the game that bring material rewards. No man of clear and analytical mind can logically say that our present social system is responsible for poverty and economic dependence. All men never were born equal in industrial capacity. Some men are born with qualities that will inevitably make them more successful than others in the struggle for existence."

Professor Laughlin referred to the fact that great fortunes honestly won are usually spent honestly, for the benefit and uplift of society as a whole. Where instances of ill-gotten wealth abound, he said the law should step in to perform its social and protective function. Socialism as a remedy for industrial ills, he explained, was, in the final analysis, unsound and impractical. The whole question of industrial or material equality among men he declared was a personal question—one of individual efficiency. He said, "It's the personal deficiencies of men that hold them down." Socialism, he added, was clearly a philosophy of failure.

"Standing on the rock of political and industrial liberty we must fight to the bitter end any and every effort to crush out individual enterprise and initiative. Let every man feel that what he accomplishes is the direct result of his own efficiency and honest efforts," remarked the professor.

He further declared that personal success rightly viewed, is not to be estimated in terms of dollars and cents, and that a man's value to society is often determined, not by the magnitude of his material resources, but by the measure of his intellectual and moral riches.

At the conclusion of his address a rising vote of thanks to Professor Laughlin was proposed by the chairman. The motion was carried.

Election of Officers.

The election of officers for 1913-14 resulted as follows:

President, C. V. Kellogg, Chicago.

1st Vice-president, P. J. Frey, Minneapolis.

2nd Vice-president, A. A. Merkel, Cincinnati.

Treasurer, Edw. F. Niedecken, Milwaukee.

Secretary, Paul Blatchford, Chicago.

The Executive Committee is composed of the following: C. V. Kellogg, P. J. Frey, A. A. Merkel, Edw. F. Niedecken, Wm. Ivy, Geo. H. Gorton, J. B. Rahm, C. A. Carothers, and E. A. Morris.

The National Committee is made up of the following: J. J. Ryan, W. A. Myler, John F. Wolff, F. D. Keeler, and Geo. H. Bailey.

Firms Elected to Membership.

The following firms were elected to membership in the association: Laib Company, Louisville, Ky.; Rome Sanitary Co., Rome, N. Y.; Detroit Valve & Fittings Co., Wyandotte, Mich.; A. M. Byers Co., Pittsburgh, Pa.; The Welker Supply Co., Cleveland, O.

Members Represented.

The following firms were represented at the meeting. Where no individual name is given, a proxy was sent.

Algoma, Wis.—Plumbers' Woodwork Co.

Anderson, Ind.—May Supply Company, I. E. May.

Atlanta, Ga.—General Supply Co., Lowry Co.

Barberton, O.—Pittsburgh Valve & Fittings Co., G. P. Cartwright.

Birmingham, Ala.—Jefferson Plumbers & Mill Supply Co., Hammond-Byrd Iron Co., Young & Vann Supply Co., Wm. M. Byrd, Jr., Charles W. Badger.

Bloomington, Ill.—The Keiser-Van Leer Co.

Burlington, Wis.—Burlington Brass Works, S. Jacobsen.

Canton, O.—Buckeye Tank & Seat Co., C. B. James; Novelty Iron Works, The, C. M. Converse; Scioto Valley Supply Co.

Cedar Rapids, Iowa.—Cedar Rapids Pump Co., W. C. LaTourette; Dearborn Brass Co., E. S. Seeley.

Chattanooga, Tenn.—The Cahill Iron Works, F. H. Caldwell.

Chicago, Ill.—W. D. Allen Mfg. Co., T. L. Ryerson; American Radiator Co., J. E. Holland, A. S. Root; A. M. Byers Co., Ernest A. Moore; Cameron-Schroth Co., W. A. Cameron; Chicago Granitine Mfg. Co., J. A. Washick; Jas. B. Clow & Sons, J. C. Clow, R. S. Mowry; Crane Co., C. D. Little; The Davies Supply Co., Eugene Buehler; S. Deschauer Co., Otto J. Deschauer; Federal-Huber Co., A. F. Johnson; Findeisen & Kropf Mfg. Co., O. F. Kropf; The Goulds Mfg. Co., O. D. Hogue; Henion & Hubbell, W. B. Henion; Illinois Malleable Iron Co., J. R. Steneck, D. W. Lewis; International Heater Co., D. E. McCabe; Kellogg-Mackay Co., C. V. Kellogg; Kelly & Jones Co., L. C. Huckins; Kohler Co., J. B. Murphy; Mark Mfg. Co., C. W. Larson, E. A. Eichel, B. F. Bechtel, F. F. Corby, L. P. Sutter, W. H. Bruce; Mechanical Rubber Co., Elmer N. Berg; Monash-Younker Co., C. P. Monash; John C. Moninger Co., W. J. Rupp; National Plumbing & Heating Supply Co., E. C. Garrity; The Nye Tool & Machine Works, H. G. Nye; Peerless Heater Co., R. N. Wilt; H. S. Raymond, R. R. Lally, B. F. Bart, F. R. Phillips, C. E. Hennish; Republic Mfg. Co., W. A. Ratcliffe, C. C. Stringer; J. J. Ryan & Co., J. J. Ryan; Spang, Chalfant & Co., W. M. Thompson; Standard Sanitary Mfg. Co., J. A. Noone; Street & Kent Mfg. Co., W. J. Street, Wm. B. Dale; C. C. Todd; Weil Brothers, Isadore Weil; Weir & Craig Mfg. Co., James Weir; Western Plumbing Supply Co., John J. Tyne; Whitney & Ford, C. A. Ford; S. Wilks Mfg. Co., Edwin W. Sedgwick; L. Wolff Mfg. Co., John F. Wolff, W. Utting.

Cincinnati, O.—John Douglas Co.; Merkel Bros. Co., A. A. Merkel; Murdock Mfg. & Supply Co.; The D. T. Williams Valve Co., D. T. Williams.

Cleveland, O.—The Bishop-Babcock-Becker Co., E. W. Fisher Co., Kennedy Co.

Columbus, O.—Columbus Brass Co.; Columbus Supply Co.; Scioto Valley Supply Co., L. C. Huesmann.

Dayton, O.—The Dayton Supply Co.; Philip Haas Co.; McCormick Mfg. Co.

Decatur, Ill.—Field & Shorb Co., W. C. Field.

Denver, Colo.—Hedges-Atkins-McGee Co.; M. J. O'Fallon Supply Co., M. J. O'Fallon, W. J. O'Fallon.

Des Moines, Ia.—L. H. Kurtz Co., L. C. Kurtz.

Detroit, Mich.—Colwell Lead Co., John J. Plath; Detroit Brass Works, A. W. Fussey; Detroit Lead Pipe Works, E. A. Morris; Detroit Lubricator Co., Herbert I. Lord; Detroit Range Boiler Co., E. W. Stoddard; Detroit Valve & Fittings Co., O. P. Benjamin, T. M. Minninger; A. Harvey's Sons Mfg. Co., Ltd., James Harvey, G. G. Harvey; Quinn Mfg. Co., S. A. Quinn; Murray W. Sales & Co.; James M. Teahen, Jas. F. Redman; United States Radiator Corporation, Warren S. Hillis; Walker Mfg. & Supply Co., John Walker.

Dubuque, Ia.—Kretschmer Mfg. Co., Fred N. Kretschmer; A. Y. McDonald Mfg. Co., A. Y. McDonald.

Eau Claire, Wis.—W. H. Hobbs Supply Co., W. H. Hobbs.

El Paso, Texas—Momsen-Dunnegan-Ryan Co.

Evansville, Ind.—Never-Split Seat Co., Geo. A. Cunningham.

Fort Dodge, Ia.—Leighton Supply Co.

Fort Smith, Ark.—Meister Brothers-Bracht Co.

Fort Wayne, Ind.—P. & H. Supply Co., C. J. Stier.

Grand Haven, Mich.—Wm. Heap & Sons, William Heap, C. R. Heap.

Grand Rapids, Mich.—Ferguson Supply Co., Ltd.; Grand Rapids Supply Co., Geo. E. Collins; Wolverine Brass Works, H. C. Cornelius.

Green Bay, Wis.—Murphy Supply Co., W. C. Noble.

Greenville, O.—Ross Supply Co.

Holland, Mich.—Thompson Mfg. Co.

Indianapolis, Ind.—Central Supply Co., L. C. Huesmann; Indiana Supply Co., George Taylor, Jim Gilchrist; Shirley Radiator & Fdy. Co., J. M. Chapman, Jr.

Kalamazoo, Mich.—Bond Supply Co.; Enameled Tank Co., Carl H. Zwermann, J. S. Dibley.

Kansas City, Mo.—Kansas City Pump Co.; Southeast Plumbing Supply Co., W. C. LaTourette; United States Water & Steam Supply Co.; W. B. Young Supply Co., Geo. H. Gorton.

Kenosha, Wis.—Frost Mfg. Co., W. J. Frost.

Kokomo, Ind.—Great Western Pottery Co., A. V. Conradt, H. C. LaFleur.

La Crosse, Wis.—LaCrosse Plumbing Supply Co.; W. A. Roosevelt Co., E. J. Gautsch.

Lansing, Mich.—Michigan Supply Co.

Lincoln, Neb.—Cornell-Wigman-Searl Co., Lyman Searl.

Louisville, Ky.—The Ahrens & Ott Mfg. Co., Samuel H. Moon; Laib Co., George H. Laib.

Mannington, W. Va.—Bowers Pottery Co., C. R. Elliott, J. B. Shipley.

Mansfield, O.—The Barnes Mfg. Co., T. R. Barnes; Hughes Supply Co.; Humphreys Mfg. Co., F. F. Borchard; Ohio Brass Co., W. T. Jameson.

Marietta, O.—Becker Manufacturing Co., J. H. Becker.

Mason City, Ia.—Mason City Supply Co., A. N. Van Doren.

Milwaukee, Wis.—F. R. Dengel Mfg. Co., F. R. Dengel; B. Hoffman Mfg. Co., August Seelman; Hoffmann & Billings Mfg. Co., E. F. Niedecken; Robert Rom Co., G. S. Ward; Rundle-Spence Mfg. Co., E. R. Spence; Wisconsin Plumbing & Heating Supply Co., William Scheubb.

Minneapolis, Minn.—Central Supply Co., P. J. Frey; The D. M. Gilmore Co., J. R. Gilmore; Roberts-Hamilton Co., F. W. Oberhauser.

Muncie, Ind.—Geo. Keiser & Co.

New Orleans, La.—Manion & Co., Standard Supply Co.

New York, N. Y.—American Sanitary Works, B. O. Tilden.

Noblesville, Ind.—Union Sanitary Mfg. Co., E. V. Brigham.

Omaha, Neb.—United States Supply Co., J. B. Rahm.

Peoria, Ill.—Kinsey & Mahler Co., Warren Kinsey.

Phoenix, Ariz.—J. H. Mulrein Plumbing Supply Co.

Pittsburgh, Pa.—Bailey-Farrell Mfg. Co.; Bowman Supply & Mfg. Co.; Fort Pitt Supply Co.; Iron City Sanitary Mfg. Co., C. F. Meyer; Kelly & Jones Co.; Republic Iron & Steel Co., D. J. Geary, L. W. Crane; Wm. B. Scaife & Sons Co.; Standard Mfg. Co.; Standard Sanitary Mfg. Co., Theo. Ahrens; Sterling Sanitary Mfg. Co.; United States Sanitary Mfg. Co., A. H. Cline, Jr.

Portsmouth, O.—The Standard Supply Co., J. A. Ruhlman.

Quincy, Ill.—Modern Iron Works, Geo. J. Fischer.

Rockford, Ill.—Rockford Brass Works, Frank D. Keeler.

Salem, O.—National Sanitary Mfg. Co., C. K. Sanborn.

Salt Lake City, Utah.—Joseph Nelson Supply Co.; West Co., Joseph A. West.

Sheboygan, Wis.—Kohler Co., J. B. Murphy.

Sioux Falls, S. D.—Plumbing Supply Co., Chas. D. Symmes.

Springfield, Mo.—Harry Cooper Supply Co., H. Cooper.

St. Joseph, Mo.—P. L. Bristol Supply Co.; Horigan Supply Co., J. J. Horigan.

St. Louis, Mo.—American Fdy. & Mfg. Co., Barney H. Saunders; John C. Kupferle Foundry Co., W. C. Ehrhardt; Monument Plumbing Supply Co., William Ivy; National Plumbing & General Supply Co., F. G. Turner; N. O. Nelson Mfg. Co., A. B. Pierce, S. L. Hillibert; L. M. Rumsey Mfg. Co., C. H. Porter.

St. Paul, Minn.—Cochran-Sargent Co., M. M. Cochran; Crane & Ordway Co.; Union Brass & Metal Mfg. Co., P. J. Frey; Western Supply Co., J. L. Sullwold.

Steubenville, O.—La Belle Iron Works, Wilmer Wickersham, W. E. Watson, Hoyle Jones, A. E. Walker.

Sturgis, Mich.—Chas. A. Miller Co.; Morency-Van Buren Mfg. Co., R. H. Van Buren.

Tampa, Fla.—Coates Plumbing Supply Co.

Tiffin, O.—Great Western Pottery Co., G. C. Kalbfleisch.

Toledo, O.—American Plumbers' Supply Co., H. A. Schlingman, F. W. Terwilliger; Joseph F. Grosswiller Co.; National Supply Co., Frank Collins; Ohio Plumbers' Supply Co., F. M. Peabody; Standard Mfg. Co., F. Leslie.

Union City, Ind.—Knapp Supply Co., L. C. Huesmann.

Wabash, Ind.—Honeywell Heating Specialty Co., J. C. Teague.

Watertown, N. Y.—J. B. Wise, Inc., Harry Verbeek.

Waukegan, Ill.—Northern Brass Mfg. Co., C. S. Johnson.

Wheeling, W. Va.—Trimble & Lutz Supply Co.; Wheeling Sanitary Mfg. Co., F. W. Wheelock; Wheeling Steel & Iron Co., John Duncan, A. S. Frampton.

Wichita, Kan.—Martin Metal Mfg. Co.

Youngstown, O.—Youngstown Sheet & Tube Co., W. B. Manning, L. B. Jenks, A. S. Dillon, W. B. Blowers.

WESTERN TRADE GOLF MEET AT CALUMET COUNTRY CLUB, CHICAGO.

The promise of inclement weather cut down the expected attendance at the Western Trade Golf Tournament, held on Thursday, Oct. 23. Had the weather been fine, many of those in attendance at the meeting of the Central Supply Association were to remain over for the tournament. A dinner at the club house followed the afternoon play. The scores were as follows:

Preliminary Round—Morning.

J. M. Stannard	47	J. P. Dugger	51
W. A. Cameron	64	L. C. Huckins	63
E. Buehler	52	H. E. Keeler	56
C. D. Little	54	D. E. McCabe	55
J. F. Tuttle	65	W. B. Dale	55
F. Van Inwagen	56	Paul Blatchford	51

Afternoon Play.

	Out	In	Gross	Hdk.	Net
"First Flight"—					
W. B. Dale	57	57	114	12	102
*L. C. Huckins	57	57	114	18	96
C. D. Little	57	56	113	18	95
**Paul Blatchford	51	50	101	12	89
"Second Flight"—					
*D. E. McCabe	49	46	95	14	81
J. F. Tuttle	52	51	103	14	81
**W. A. Cameron	57	56	113	26	87
E. Buehler	52	56	108	18	90
"Third Flight"—					
H. E. Keeler	54	54	108	12	96
*J. M. Stannard	46	47	93	10	83
F. Van Inwagen	58	53	111	10	101
**J. P. Dugger	50	54	104	18	86

D. E. McCabe winner Association Cup.

*Winner. **Runner up.

DISTRIBUTING VALUABLE LOOSE-LEAF POCKET DIARY.

Betz-Pierce Co., Cleveland, O., is distributing a very handsome and useful leather bound loose-leaf pocket diary to the plumbing and heating trade. The little book is being sent, postpaid, to any master fitter or plumber, who will send the company his address on his own letter head.

Personal Mention

George Hoffman, of the Hoffman Specialty Co., of Boston, Mass., was in Chicago this week on his way to the West.

F. F. Rowell, manager of the plumbing specialties department of the H. W. Johns-Manville Co., New York City, visited Chicago this week.

Harold S. Maddock, Jr., of the Thos. Maddock's Sons Co., of Trenton, N. J., was in Chicago this week and called on some of his many friends in the trade.

Frank H. Kuhn, western district manager for the John Wood Mfg. Co., of Conshohocken, Pa., was seen in Cleveland, O., last week, very busily engaged in injecting Electric Weldism into users of range boilers.

Robert Kerr, sales manager for the Clayton & Lambert Mfg. Co., of Detroit, Mich., has just returned from a two week's fishing trip spent in the Muskokee Lake and Georgian Bay districts. He has taken on a healthy coat of tan and with a clear and sparkling eye relates his experiences among the haunts of the pickerel and bass.

H. B. Auger, manager of the plumbing department of the Murray W. Sales Co., Detroit, Mich., is now spinning anglers' yarns that carry a very sincere ring. H. B. has been back from the Canadian fishing grounds just about long enough to have had time to color his fish stories to a delightfully rosy hue, and H. B. is some colorer.

John A. Mangan, president of the Elgin Brass Co., of 94 John Street, New York City, has just returned from a two months' trip to the Pacific Coast. He must have brought something back with him, as the day after his return he immediately proceeded to lease the building adjoining his present one. This will give him increased room for the storage of stock.

R. Collings, western representative of the American Pin Co., of Waterbury, Conn., with offices at Cleveland, O., spent two very busy evenings in the Sixth City last week. Mr. Collings has a well merited reputation for being a real hustler but regardless of this fact it took him two evenings to see and bid his many friends farewell before leaving on an extended eastern trip.

R. B. Merritt, secretary and treasurer of the Rome Sanitary Co., Rome, N. Y., has been calling on the jobbing trade in the middle west, in company with Harry Verbeek, the Chicago representative of the company. Mr. Merritt states that the trade generally has begun to appreciate the merits of the Rome Ball, and that a most encouraging increase in business has been the result. His company has just been elected to membership in the Central Supply Association.

A. W. Hills, of the Haydenville Co., of Haydenville, Mass., and New York City, is a very well known young man in the plumbing supply trade. He travels far and fast, and it is only occasionally that he will cease activity long enough to run up to his old home town in Massachusetts. But he keeps a 120 horse power "Panhard" hitched there to the family barn and when he is home the "hills" around Northampton are none too steep for this fearless young "speed-king."

H. J. Lucas, sales manager for the Chamberlain Co., of Pittsburgh, Pa., has checked his trunk for Philadelphia where he will spend a few days at the company's office in that city, before departing for New York and Boston. Mr. Lucas is fast making fast friends among the plumbing trade through converting them into users of "Desolvo" which is a product that is fast solving the problem of drain-pipe and sewer cleaning for the master plumber.

Joseph A. Maynard, for many years connected with the F. W. Webb Manufacturing Co., of Boston, Mass., has just been nominated for the post of surveyor of customs for the district of Massachusetts by President Wilson. Mr. Maynard has a host of friends in the plumbing trade in New England, who will be glad to know that he has been honored in this manner. He was born in Boston in 1875 and has taken an active part in Democratic politics since 1896.

H. M. Haldeman, vice-president and general manager of the plumbing supply house of H. R. Boynton Co., of Los Angeles, Cal., has been honored by appointment as a member of the permanent Industrial Committee of the Los Angeles Chamber of Commerce. The committee, consisting of seven prominent business men, is taking up plans for the acceleration of industrial progress in that city, the first work being to tabulate and act upon the many inquiries received in regard to industrial openings

PLANT OF THE SANITARY CO. OF AMERICA DESTROYED BY FIRE.

The plant of the Sanitary Company of America, manufacturers of plumbing fixtures, at Linfield, Pa., was destroyed by fire on Friday, October 17th. The loss is placed at $75,000, and it is covered by insurance. The company employs about 150 men. The plant will be rebuilt as soon as possible.

THE NEW HONEYWELL TEMPERATURE REGULATOR.

The Honeywell Heating Specialty Co., of Wabash, Ind., has just issued a very atractive and well-written twenty-page booklet, illustrating and describing the new Model Eight Honeywell temperature regulator with eight-day clock. This new instrument is described as being small, symmetrically designed and extremely neat in apearance. It is fitted with an attractive and dependable eight-day clock—not a cheap alarm clock, but a high grade time train movement made for this special requirement by one of the leading American clock manufacturers. The dial is 2¼ inches in diameter and is of white porcelain, making it easy to read at a distance and serves therefore as an excellent timepiece, suitable for any room. And here is what it will do: Without any attention on the part of the owner, except to wind the clock once a week, it will automatically set up to normal temperature in the morning at any predetermined hour and set back at night at retiring time to any lower tempera-

Front Cover Design of a New Honeywell Booklet.

ture desired. The front cover design of this interesting booklet is shown herewith in miniature, the size of the booklet being 3½x6 inches. Copies of it can be obtained from the Honeywell company upon application, mentioning "Domestic Engineering."

THE BISHOP-BABCOCK-BECKER CO.'S NEW CATLOG.

The accompanying illustration is a miniature reproduction of the title page of an exceedingly well gotten-up catalog just issued by the Bishop-Babcock-Becker Co., of Cleveland, O., consisting of 44 pages, 5x8 inches, and containing detailed descriptions with illustrations of the company's Reliable vacuum heating systems, paying particular attention to the Reliable electric vacuum pumps for "air-line" systems, which include pump, motor, automatic cut-off switch and vacuum controller, strainer, vacuum expansion tank and vacuum gauge. Layouts and plans of typical installations of the Reliable "air-line" vacuum heating systems are also shown as well as the method of installing the Reliable hydraulic vacuum pump and the Reliable Vacu-vapor heating system. Several interesting tables of vital interest to heating engineers and contractors are also given, the most notable being: Schedules of pipe sizes for supply mains and returns as well as sizes for supply and return connections. The catalog also contains most elucidating chapters on "How the Reliable 'Air-Line' Vacuum System Operates" and "How to Install the Reliable Vacu-Vapor Heating System" with an exhaustive description of the Vacu-Check and the Vacu-Trap. Those of our readers who are interested in the above methods of heating can obtain this catalog from the manufacturers upon request, mentioning "Domestic Engineering."

Title Page of Bishop-Babcock-Becker Co's. New Catalog.

The Metal Market

A Slowing Down in Trade.

Evidences continue to multiply that the iron trade is slowing down in important centers. The recent advance of Southern Foundry No. 2 was more or less a flash and, although it is still held at a minimum of $11.25 Birmingham, there is relatively little business being transacted at this figure. Continued weakness appears in basic iron, a further reduction of 25 cents a ton having been made in the price in Philadelphia, and foundries report a falling off in orders and in consequence they are not making any haste to buy ahead. Some exceedingly low quotations have been made for cast-iron pipe, but there seems to be a very fair demand. The output of coke continues large, averaging 380,000 tons weekly in the upper and lower Connellsville region. The announcement, rather guarded, that the New York Central system would not place its rail order until February was a distinct disappointment to the trade. This will amount to over 150,000 tons. The Lackawanna placed orders for its Buffalo terminal, involving about 6,000 tons. Car orders have been relatively better in the last month. Numerous reports have been circulated in the East that there would be a program of building blast furnaces and steel mills in the vicinity of New York inaugurated in the immediate future. There is a possibility that a few blast furnaces may be built, but the steel center of the country is not going to move eastward on express trains like the offices of the Steel Company did ten or fifteen years ago. It is probable that one interest will build two blast furnaces somewhere adjacent to the New York harbor, but the other schemes are not especially promising. Quotations are as follows:

No. 1 Northern Foundry, New York	$16.00 to $16.25
No. 2X Northern Foundry, New York	15.75 to 16.00
No. 2 Southern Foundry, Cincinnati	14.50 to 15.00
No. 2 Northern Foundry, Cincinnati	15.25 to 15.75
No. 2 Northern Foundry, Chicago	15.00 to 15.50
No. 2 Southern Foundry, Birmingham	11.25 to 11.50

Foreign Buying of Copper.

Consumers of copper in Europe have bought freely in the last week and in sufficient volume to advance quotations materially. Copper in New York for either domestic delivery or for export is now held at 16.75 cents. There is relatively little business in the New York market, but the good buying from abroad fully sustains quotations. There is likely to be an accumulation of copper shown when the next fortnightly statistics are published.

A Slight Drop in Tin.

Due to freer offerings by importers, the price of tin dropped slightly and sales were made early in the week at 40.25 cents.

Lead.

The market is easier at 4.35 cents New York and 4.20 cents St. Louis, with spot shaded 5 cents.

Spelter.

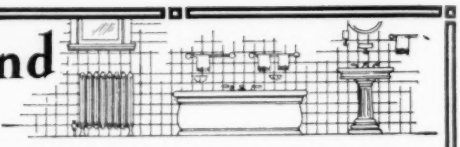
The market is dull and spelter is offered at 5.35 cents New York and 5.20 cents St. Louis.

Old Metals.

New York dealers' buying prices are:

Light copper	$12.25 to $12.50
Strictly crucible copper	13.50 to 14.00
Uncrucibled copper wire	13.00 to 13.25
Uncrucibled heavy copper	13.00 to 13.25
No. 1 machine composition	12.00 to 12.50
No. 1 composition turnings	10.25 to 10.75
New Brass clippings	9.50 to 10.00
No. 1 brass turnings	8.00 to 8.25
Cocks and faucets	10.00 to 10.50
Clean red car boxes	11.00 to 11.50
Light brass	7.25 to 7.50
Heavy yellow brass	8.25 to 8.50

Among the Plumbing and Heating Contractors



Illinois

Chicago.

James J. Wade, Sr., attended the dinner of all creeds given last Monday by the Irish Fellowship Club at the Hotel La Salle, at which prominent Chicagoans delivered addresses denouncing the "Ritual Murder" persecution which the Russian government is directing against the Jews as a race.

Riordan Bros., 3523 Ogden Avenue, are soon to install plumbing and sewerage in seven cottages which will be built at 5018-36 Park Avenue. W. H. Barry, 4801 W. Washington Street, is the owner.

The plumbing contract on a six-flat building soon to be erected at 2415 North Kolin Avenue has been awarded to P. K. Clayton, of 1957 North Western Avenue.

Ground will soon be broken for two residences to be built at 4916 North Hamlin Avenue. The plumbing will be installed by Peter Feltman, of 4053 North Central Park Avenue.

Charles Taffe is putting the finishing touches to the work of installing plumbing and sewerage in the new Lincoln State Bank, which has been erected at State and Thirty-first Streets.

The American Heating & Plumbing Co., of Chicago, has recently been awarded the contract for plumbing work on a six-flat apartment building which is to be built at 67-69 Sheridan Terrace, Evanston, Ill. The owner is H. L. Swanson, of Zion City.

L. Smith, of 2741 West Twenty-second Street, has been awarded the plumbing contract on a building comprising four stores and four flats at 2757-59 South Avers Avenue.

Harry Snow, of the Peerless Selling Co., of Evansville, Ind., has been re-christened by his colleagues. He is now rejoicing in the unique name, "The Great White Hope."

The plumbing and sewerage work on a three-flat building to be erected at 4047 North Maplewood Avenue will be installed by Otto Liss, of 3527 North Robey Street.

Nilson Bros., of 3222 North Halsted Street, have recently secured the plumbing contract for work on a six-flat apartment building at 65 Sheridan Terrace, Evanston, Ill.

Plumbing installation on a residence to be erected at 5431 Adams Street will be handled by William Gawne, 5812 West Madison Street.

George A. Leebody, 3715 North Ashland Avenue, has been awarded the plumbing contract on a building, comprising stores and offices, to be constructed on Juniata Street, near the Birchwood "L" Station.

DATES FIXED FOR ILLINOIS MASTER PLUMBERS' ANNUAL CONVENTION

The Illinois Master Plumbers' Association will hold its next annual convention in Rock Island, Ill., on January 27, 28 and 29, 1914, according to official notice just issued by Secretary W. C. Haviland, 346 Coulter Block, Aurora, Ill.

Ohio

Columbus.

The first condemnation proceedings taken by the commissioners of Franklin county in the courts, under the new law which gives commissioners authority to establish sewer districts, has been brought in the probate court. The commissioners are desirous of obtaining a portion of a 19-acre track along Alum creek for a sewage disposal plant.

Considering the lateness of the season, building operations in Columbus and vicinity are unusually active. Most of the building is for dwellings and apartment houses, although occasionally a permit is taken out for a larger structure. The building outlook for the future is bright.

The Cincinnati Master Plumbers' Association has begun active preparations for the entertainment of the Ohio Master Plumbers' Association, which holds its convention in the Queen City February 17 and 18 in the new Gibson House. A. J. Murphy, chairman of the Entertainment Committee, will work with the Convention Department of the Chamber of Commerce in settling upon the details of the entertainment which will be offered the visitors.

Michigan

Detroit.

Improvement of conditions relating to construction lines was apparent last week in the larger volume of new projects reported from the offices of local architects. While in Detroit there has been only a slight slackening in activity, which has enabled contractors to get their work pretty well cleared away, placing them in position to take and hurry to completion additional undertakings, reports from other cities indicate that many of them have suffered a considerable curtailment of building operations during the last few months. The most important structure reported in the way of building for industrial use, was a four-story concrete and steel structure to be erected for Dodge Bros. on Bismarck Street. Contractors are now preparing estimates from the plans.

Modern factories being erected in Detroit are being supplied with better plumbing than were the best of homes 20 years ago, according to James W. Partlan, who has been in the plumbing business for the past 25 years. "One of the most noticeable changes in the plumbing industry," he said, "has been in factories. We have the word of leading health authorities of the world that good plumbing is far more essential to life and health than is good bread. Manufacturers have been among the first to realize the value of good plumbing and as a result we are installing shower baths, lavatories, water closets, and ventilating systems in factories today that were not thought of in the ordinary home 20 years ago. The fine

modern systems of heating and ventilation has proven to be a profitable investment for the factory owner."

Architect Wm. F. Goodrich is preparing the plans for a tile and stucco residence, 40 by 70 ft., to be erected on Burns Avenue. Bids close on October 30th.

Architect J. J. Walsh is taking figures for the erection of a veneer and stucco residence on East Grand Boulevard. Bids close November 4th.

William Gourley, Jr., has been awarded the plumbing and heating contract for a six-family apartment being erected on John R Street, corner East Grand Boulevard.

Harrigan & Reid will install the plumbing in the wash room addition to the foundry of the Peninsular Stove Co., corner of Eighth and Fort Streets.

Jacob Zerga will install the plumbing in a garage being erected in the rear of Mr. Alvan Macauley's residence on Burns Ave.

A. L. Waltensperger is very busy, having just received two plumbing contracts. One was for the heating of five stores and flats on Beaubien and Theodore Streets, and the other was for the plumbing in a brickstore building in course of construction on Napoleon Street, near Rivard Street.

Kentucky

Louisville and Vicinity.

Business is slow just now among Louisville plumbers, this being the "between-seasons" month when new building work has about stopped for the winter, and when the jobbing work called for by cold weather has not yet begun. The heating men, however, are busy, the probability of cold weather in the near future causing many people to have their furnaces overhauled and repaired or renewed. No large jobs have been let recently, however, most of the activity being confined to jobbing work.

At a recent meeting of the Louisville Master Plumbers' Association it was decided to adopt for general use among the members a placard offering a reward of $25 for the arrest and conviction of any person defacing new work. There has been no little trouble experienced in the past with this sort of vandalism, unfinished work in new houses offering easy prey to petty thieves or mere mischief makers; and it is believed that the step taken by the association will go far toward putting an end to the trouble. A similar plan adopted by the Louisville Real Estate Exchange for the purpose of checking, at least, the damage done to vacant buildings, has operated very well, and it should work equally well for the plumbers.

One of the best pieces of work let around Louisville for some weeks was awarded recently to M. J. Duffy & Sons Co., by Architects D. X. Murphy & Bro. The plumbing firm will install all of the necessary fixtures in the big new 5 and 10-cent store of the J. G. McCrory Co., which will be opened as soon as possible in the building whose ground floor was formerly occupied by the old Avenue theater, on Fourth Avenue. The work calls for eight closets, three washstands, the necessary sewer connections, and the installation of a large soda-fountain which will be one of the features of the store. The remodeling work has been under way for some time, and the plumbing job has already been started, as the company is anxious to have the store open for business in time for the holiday trade.

Prospects are excellent for a favorable vote on the proposed million-dollar bond issue to be passed upon at the November election, the proceeds, if the issue is authorized, to be expended in modernizing Louisville's school buildings and in erecting a number of new ones, including a new high school. The building trades are much interested, as a good volume of heating and plumbing work in the schools will be the result of the authorization of the bonds.

Walter A. Wunderlich, special expert representative of the Standard Sanitary Manufacturing Co., visited Nashville, Tenn., last week and spent considerable time with architects in that city, demonstrating the "Standard" line of plumbing fixtures. Mr. Wunderlich made his headquarters at the Ahrens & Ott Manufacturing Co's. branch.

Connecticut

Waterbury.—J. M. Reichenback has purchased the plumbing business of W. S. Carberry at 28 Abbot Avenue. Mr. Reichenbach has had a wide experience in plumbing and heating lines.

Bridgeport.—The contract for plumbing in the store and apartment building at the corner of State and Yale Streets, for Mrs. Anna Gorman, has been placed with N. B. Curtis & Co. W. K. Sherwood will do the plumbing and heating in an addition to the Bridgeport hospital soon to be erected. The building will be two stories high and used for operating rooms. H. D. Moon is building a new house for himself in the Stratfield district and has placed the contract for plumbing and heating with George Conners. Plumbing and heating in a new three-family house on Hanover Street for Richard Lombard is to be done by R. T. Rock. A. E. Roberts will install plumbing and hot-air heating systems in a two-family house on Fifth Street for Adolf Sherman.

Massachusetts

Boston.—Mayor Fitzgerald has asked the city council for an appropriation of $10,000 for the erection of a public comfort station on land owned by the city at Forest Hills.

Attleboro.—James McGeöur has been made manager of the shop of the Attleboro Plumbing Co. He was formerly in charge of a large shop at North Attleboro.

Clinton.—O'Toole Bros. have been awarded the contract for heating and plumbing in three tenement houses owned by the Lancaster Mills Corporation.

Ware.—George H. Marsh, who has been associated with his father, Gamaliel Marsh, in the plumbing business, has gone to Syracuse, N. Y., to enter the employ of the Kelsey Heating Co.

Pennsylvania

Philadelphia and Vicinity.

P. J. Hoft, 245 South Eighth Street, has been awarded the plumbing and heating on the new apartment house which is being constructed at the corner of Eighth and Spruce Streets, for F. Schissler.

H. L. Roberts, 1512 Vine Street, has been awarded the contract for the installation of some large heating sys-

tems lately and are doing the whole row from 3802 to to 3824 North Tenth Street for Henderson Estate.

H. T. Campbell, 29th and Stiles Streets, has been awarded plumbing and heating contract in the property at the corner of 22nd and Thompson Streets.

R. M. Thorpe, Frankford, Pa., is doing the plumbing and heating in the property at the corner of Disston and Ditman Streets, for Thos. Taylor. Consideration, $1,700.

J. F. Hallinan, 32nd and Vine Streets, is installing heating in the property at 111 North 50th Street for Mr. Levis.

A. McClintock, Ridge Avenue, is installing heating systems in the Richmond Baptist Church, Indiana Avenue, cost, $1,700; and also in the St. Augustine Church, 20th and Columbia Avenue. Consideration, $1,500.

J. J. Finnegan, Fox Chase, Pa., has been awarded the plumbing and heating in five new houses in that town, for J. M. Ashby.

J. G. Scheiner, 1434 Frankford Avenue, is installing new plumbing in property at corner Belgrade and Frankford Avenue, and he also reports quite a lot of jobbing on hand for present season.

Washington

Seattle.

Local plumbers are awaiting with much interest the awarding of the contract for plumbing in the power house in the Tuberculosis Hospital being built by the city, as a large number of them have submitted figures for the job. The bids were opened on October 17th, but the result has not yet been made public. The work entails the expenditure of several thousand dollars and will be one of the largest contracts for plumbing let in this city for some time.

Seattle plumbing and heating contractors, however, report splendid business and aver that the outlook for a prosperous winter was never better. To carry out their predictions comes the statement that O. L. Willets, of the firm of Willets & Oleson, 431 Lyon Bldg., will build a large concrete business block on Eleventh Avenue, between Pike and Pine Streets, the exact number of stories not definitely decided upon as yet. The structure will be a substantial one and the lucky bidder on the plumbing and heating is to be congratulated.

Lawrence J. Colman, Colman Block, Seattle capitalist, will build a steel and concrete business block at 116 East Jackson Street and is having plans prepared for the building.

Architect J. A. Creutzer, New York Block, is receiving bids for the construction of a two-story concrete moving picture theater to be built for the Isis Land Co., on Broadway, near Pine Street. The proposed structure will cost $25,000 and the heating and plumbing contracts, for which bids will be received shortly, constitute a goodly share of the total expenditure.

Harlan Thomas, architect, Eiler Building, is preparing plans for a fraternity house to be built for Delta Kappa Epsilon at 21st and 45th Streets, to cost about $25,000. Bids for the heating and plumbing will be called for by the architect in the near future.

Tacoma.

The Board of Education recently opened bids for the installation of a power plant for the Lincoln High School, the same were referred to the Committee on Buildings and Grounds. The bids received were as follows: C. A. Richardson, $21,500; W. B. Coffee Co., 1012 South A. Street, Tacoma, $23,783; Washington Machinery Depot, Tacoma, $22,086; M. A. Thompson, 1013 South G Street, Tacoma, $24,000; Chas. C. Moore & Co., Mutual Life Bldg., Seattle, $25,372; W. W. Cox, $24,500; J. C. Corbin Co., Tacoma, $24,930; Appling-Griggs Co., 6th and Pine Streets, Tacoma, $22,800; Ben Olson, 1130 Commerce Street, Tacoma, $21,477; Ben Olson was the low bidder, and was later awarded the contract. The bids submitted for the installation of a heating system were also referred to the Buildings and Ground Committee. They were: Ben Olson, 1130 Commerce Street, $30,590; M. A. Thompson, 1013 South G Street, $33,000; Appling-Griggs Co., 6th and Pine Streets, $31,600; W. B. Coffee Co., 1012 South A Street, $32,132; A. Gehri & Co., 113 South Tacoma Avenue, $30,950; C. A. Richardson, $39,555; W. W. Cox, $34,500. Ben Olson was also the low bidder for this job and was later awarded the contract.

The Weyerhaeuser Timber Co., Tacoma Building, will repair the Tacoma building at a cost of $20,000. The contract for the work has been awarded to Cornell Bros., Savage-Scofield Building. Some plumbing installation will be made and Tacoma Plumbers will be asked to submit bids shortly.

California

San Francisco.

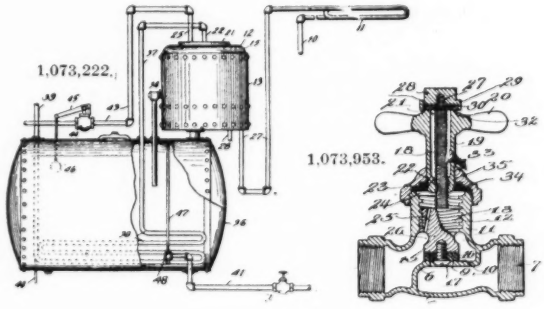
Plumbing contracts have not been coming out very freely so far this month, and now there will probably be a lull until after the Portola Festival next week. The mercantile interests of the city have made elaborate preparations for this event, and it will no doubt be of some benefit to general business. It is expected, however, that the celebration will cause some interruption in building operations locally, and possibly in some parts of the country. It is hoped that a good many buyers will take the opportunity to come in and place their orders with local jobbers.

A change of far-reaching importance to the San Francisco trade took place Oct. 1, when the rule requiring the "laying down of tools" by master plumbers took effect. This rule, which extends the rule of the Building Trades Council requiring its members not to work on any building on which a non-union man is employed, and under which master plumbers are prohibited from working with tools, was long opposed by the master plumbers as a change which would cause hardship to many of the members. Last year, however, the matter came to a crisis, the union demanding that the rule be put in operation June 1, 1912; but a compromise was effected by which it was suspended until October 1st this year. Considerable progress has been made toward discounting the effects of the rule, though it is likely to bring about further changes in the progress of the trade. Under local conditions, it has long been realized that the change was bound to come some time, though most master plumbers have been anxious to avoid it as long as possible. On the face of things, it would appear that the rule must drive some of the less competent of the small shops out of business; as it is evident that a plumber employing one or two journeymen can hardly make things go unless he can work himself; while the small plumbers with more business acumen will doubtless be able to increase their scale of operations, and maintain their own income through business management rather than mechanical labor. The new scheme of things is a radical change, but is in line with the progress of "industrialism," under which the smallest independent proprietors are bound to suffer.

Patents

Plumbing Department.

1,073,222. Water Heater. James A. Dillon, Chicago, Ill. In a water heater, in combination; a shell having a primary and a secondary condensing chamber therein; a water-jet vessel within said secondary chamber, said vessel having a series of apertures therein through which water is adapted to be projected outwardly in radial streams into said secondary chamber; an exhaust steam inlet into the primary chamber; a pipe for conducting the steam from the primary to the secondary chamber, the open end of said pipe within the secondary chamber terminating adjacent to some of said apertures in the water-jet vessel and arranged to give the steam as it enters the secondary chamber a rotary motion around the water-jet vessel, whereby the streams of water are projected into the incoming steam radially; a water supply pipe for said water-jet vessel; and an outlet from said secondary condensing chamber for the condensed steam and heated water, substantially as specified.



1,073,953. Stop and Waste or Drain Cock. William E. Burke, Lorain, Ohio. In a stop and waste cock, a body having inlet and outlet with a valve seat between, a valve for said seat having a waste port therethrough, and a compound valve stem associated with said valve and comprising two members, one of which is tubular and has a waste port communicating with the interior of the body, one valve member being fixed to the valve and the other movable independently thereof and both members provided with means for causing them to unitedly move.

1,073,362. Ball Cock Seat Dresser Guide. George W. Redeker, Wheeling, W. Va. A ball cock seat dresser guide comprising a plurality of similarly constructed cylindrical tubes of uniform thickness throughout their entire length, graduated in size and telescopically connected, said tubes having smooth inner and outer surfaces arranged to slide freely within each other, radially projecting annular flanges formed on the outer ends of said tubes, whereby they are supported on each other and one or more may be readily removed to adjust the device to the proper size for engagement with a ball cock, the lower edge of the outer or larger tube projecting beyond the inner surface of the valve casing, a dresser stem slidably and revolubly arranged in the smaller tube, and a dressing bit detachably secured to the lower end of the stem and adapted to be brought in contact with the lower projecting edge of the

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The Unqualified Choice of Many Architects and Sanitary Engineers.

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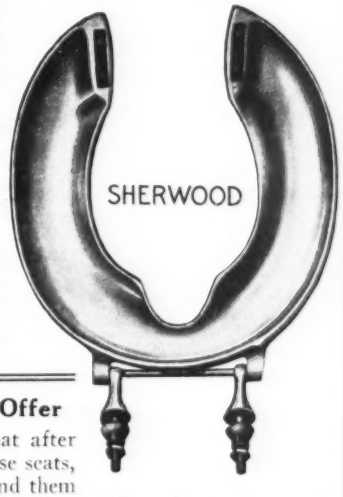

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Write today, to

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THE ONLY PERFECT GENERATOR

Why?

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"AMERICAN"
ANTI-SYPHON AND RESEALING TRAPS
Are the best that experienced and competent workmanship can produce
FROM AN ARTISTIC
AS WELL AS
SANITARY POINT OF VIEW
Deep water seal—over 7". Full waterway. Ground joint at outlet. Artistic in design. Superior in finish. Castings smooth inside and out.

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ABINGDON, ILL.

Bugs don't like this adjustable boiler stand. It gives them no roosting place. To plumb boiler, insert wedge under slide piece. Why pay the same price for a stand of the ordinary kind? Height, 3¾ inches. Weighs about 6 lbs. Get jobber's price for lots of 100 or more.
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MIW MODERN MIW
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Modern Iron Works, Quincy, Ill.

The Best Insurance
Against heat loss is provided by the
M. & F. Patented Gas Boiler.
The narrow zig-zag fire or flue passages absorb 95% of all heated gases.
Can you treat a customer better than to save him money on his fuel bill?
Our catalog will be sent the minute your request comes to hand.
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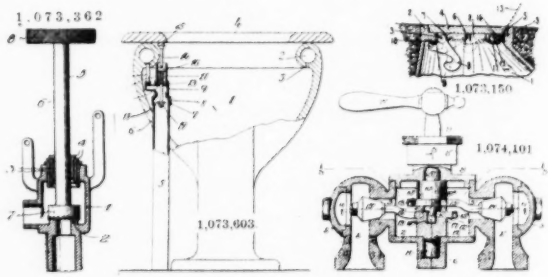
DIXON'S
GRAPHITE
PIPE JOINT
COMPOUND
Makes it possible to set up a gas or water joint which can be opened long afterward without injury to threads or gaskets. Ask for sample or booklet No. 37.
Joseph Dixon Crucible Co.
Jersey City New Jersey

larger tube when it is desired to remove the tool from the valve casing.

1,073,603. Flush Valve for Water Closets. Hans P. Hansen, Hoboken, N. J. The combination with a water closet having a circular water chamber at the top, a water supply pipe extending from the outside vertically through the wall of the water closet to the inside thereof, a nipple 7 secured to said water supply pipe and forming a valve seat, an outlet section secured to said nipple, a connection between said outlet section and said water chamber above the said valve seat, a pipe section 11 secured to said outlet section, a valve for closing said valve seat from below, a valve stem carrying said valve and moving vertically in said supply pipe, a shoulder formed at the lower edge of said pipe section 11, a washer on said shoulder, a collar on said valve stem, a spring interposed between said washer and the said collar for lifting the valve stem to close said valve, a seat for said water closet, the said valve stem being adapted to be depressed by the said seat to open the said valve.



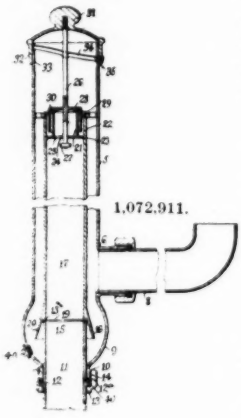
1,073,150. Sewer Clean-Out Cover. Benjamin B. Linskie, Dallas, Tex. The combination with a sewer clean-out casing having a key receiving recess, of a circular cover fitting in the casing, a pair of spaced guide projections on the undersides of the cover in position adjacent the recess of the casing to receive a key inserted through the recess, a flanged projection on the wall of the casing positioned diametrically opposite the guide projections, and a hook pivoted on the underside of the cover diametrically opposite to the guide projections and normally engaging the flanged projection of the casing, said hook having a depending key receiving portion.

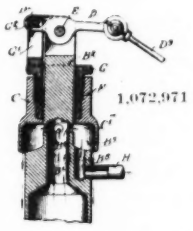
1,074,101. Anti-Scald Faucet. John R. Boutell, Milwaukee, Wis., assignor of one-half to Siebers & Raisch Pattern Works, Milwaukee, Wis. A faucet comprising a housing having a mixing chamber provided with a pair of supply ports and a discharge port, a valve for each supply port, independent valve actuating eccentrics having axially alined stems, one of the eccentrics being provided with a recess forming tappet-shoulders, a tappet extending from the opposite eccentric and fitted into said recess, a valve stem extending from each valve having an apertured hub for engagement with its actuating eccentric, a non-rotatory spacing collar interposed between the eccentrics, and an operating spindle for the tappet-carrying eccentric.

1,072,911. Waste and Overflow Fixture. William Cantlon, Paris, Ill. In a waste and overflow fixture, a hollow body having a soil pipe extending upwardly in the hollow body, means on the hollow body connecting the side of the soil pipe with the side of the hollow body, the top of the soil pipe being spaced from the side of the hollow body, a tubular member having a diverging flange for extending down between the top of the soil pipe and the said means on the hollow body, thereby forming a trap, concentric flanges disposed one within the other at the

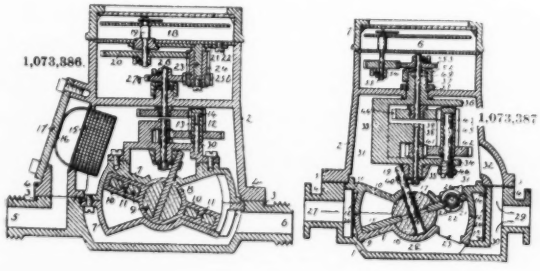
top of the tubular member, with a bottom connecting one flange with the other flange, a bell trap member disposed between the concentric flanges, and means for raising the bell trap member and the tubular member.

1,072,971. Supply-Valve. John J. Meyer, Yonkers, N. Y. A supply valve of the class described, comprising a supply pipe terminating at its upper end in a fixed stem, the lower portion of which is hollow and provided with lateral ports leading to the peripheral face of the stem, a lever pivoted on the upper end of the said stem, a valve mounted to slide up and down on the said stem and provided with an interior annular packing surrounding the said stem and adapted to cover the said ports at the time the valve is in lowermost position, a stuffing box surrounding the said stem and on which screws the said valve to tighten the packing on the stem and to present other faces of the packing to the said ports on screwing up the valve, and an arm fixed on the said stuffing box and pivotally connected with the said lever to move the valve up or down on imparting a swinging movement to the said lever.

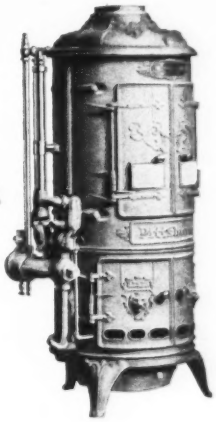




1,073,386. Water Meter. George B. Bassett, Buffalo, N. Y. In a water meter, the combination with a bottom casing, a separable top casing, a strainer mounted in said top casing, and an indicator mounted on said top casing of a hand hole and a removable hand hole plate in said top casing for giving access to said strainer, substantially as and for the purpose described.



1,073,387. Water Meter. George B. Bassett, Buffalo, N. Y. In a disk water meter, the combination of the outside casing and the inner disk chamber so arranged that the space between them forms an upper outlet compartment above the upper head or cone of said disk chamber and a lower outlet compartment below the lower head or cone of said disk chamber; said disk chamber having an outlet port through its upper head communicating with said upper outlet compartment and an outlet port through its lower head communicating with said lower outlet compartment; substantially as and for the purpose described.



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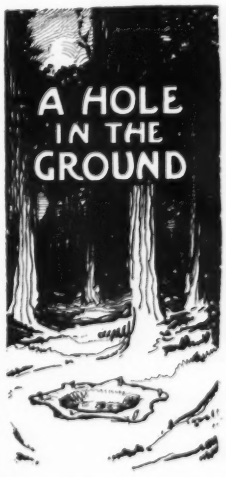

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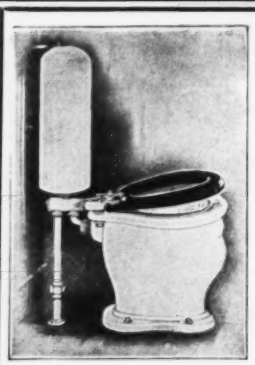

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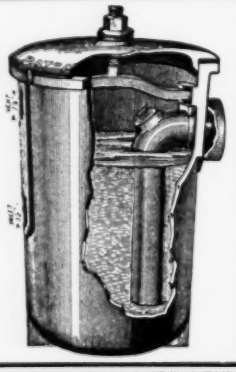
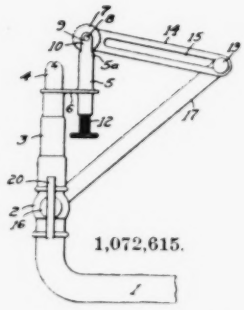
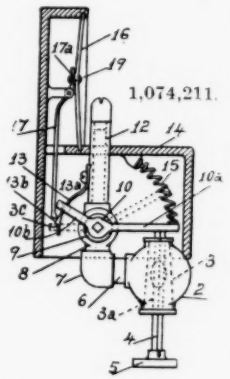


Lighting Department.

1,072,615. Gas-Burner Valve and Lighter. John Holtzman, New York, N. Y., assignor of one-half to Joseph Lisken, New York, N. Y. The combination with a gas jet, and a valve therefor, of a tube adjacent said jet, an abraiding wheel mounted on said tube, a spring-pressed sparking compound within said tube bearing against said wheel, a slotted arm fixed to said wheel, and a lever fulcrumbed on said valve engaging the slot in said arm, said valve actuating said lever and arm to rotate said wheel for lighting the gas and to impart a snap movement thereto when opened and closed.





1,074,211. Automatic Shut-Off for Gas-Burners. Cleveland H. Schenk, Springfield, Ill. The combination of a burner; a valve controlling the supply of gas to the burner; a first lever adapted to operate said valve; a first spring adapted to engage said lever to keep the valve open; a second spring effective to move said lever to close the valve; a casing in fixed relation to the burner; an expansible plate mounted in the casing and adapted to buckle upon the heating of the plate and move reversely upon the cooling of the plate; and a second lever connected with said expansible plate and adapted to disengage said first spring from said first lever upon the cooling of said expansible plate.

Hanford, Wash.—The Mitchell, Lewis & Staver Co., of Spokane, has been awarded the contract for plumbing the Sunset high school.

Missoula, Mont.—Plans have been completed for extensions to the heating system of the Missoula Light & Water Co. at an approximate cost of $50,000.

Granite Falls, Wash.—The Thompson Plumbing & Heating Co., of Everett, has been awarded the contract for the heating plant and roughed in plumbing in the town school at $2,347.83.

Immune to Wagner.

A gentleman took a country friend to the opera one night to hear the "Meistersinger" performed. He was very anxious to see the effect of Wagner's glorious music on the countryman, and watched him keenly during the rendering of the overture, which, grand as it is, is a little noisy, more especially when the bang of the drums and the crash of the cymbals occur at intervals.

But the countryman's face remained absolutely unmoved. At last the city man could bear his friend's indifference no longer.

"Doesn't this glorious volume of sound affect you?" he said.

"Oh, not in the least," was the calm reply. "You forget I'm a boilermaker."—Baltimore Sun.